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OF

PSYCHOLOGY AND PHILOSOPHY

I.—ON THE FIRST PART OF PLATO'S *PAR-*
MENIDES.

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I THINK I shall not stand alone among readers of Plato when I say that I was a little startled by Mr. Benn's article on "The Later Ontology of Plato," in *MIND*, N.S., No. 41. The interpretation given in that article to the *Parmenides* and *Timæus* was, from my own point of view, so revolutionary, and yet the known learning and ability of the interpreter so great, that my first impulse was to rub my eyes and ask myself whether, in the language of Plato himself, I had been "dreaming with my eyes open" in all my previous study of the dialogues. As I read on, however, I thought I could detect one or two significant indications that the learned author of *The Greek Philosophers* had for once written, as the psalmist spoke, in his haste. For instance, at page 40 of Mr. Benn's article I read of the "refusal" of Plato in the *Timæus*, "to acknowledge an independent and isolated existence of the Ideas".¹ But in the *Timæus* itself (51 B-52 A) I found the strongest and most emphatic declaration of the "separation," in some sense or other, of Idea and sensible thing to be met with in the whole of the dialogues. So

¹ I entirely fail to see how the second footnote on the same page, according to which Plato would "not have agreed with Descartes . . . that the idea of perfection involves that of existence," is to be reconciled with *Sophistes*, 245 d, τὸ γινόμενον αἰ γέγονεν ὅλον· ὥστε οὔτε οὐσίαν οὔτε γένεσιν ὡς οὐσαν δεῖ προσαγορεύειν τὸ ὅλον ἐν τοῖς οὐαῖς μὴ τιθέντα κτλ.

again, at page 48, I found Mr. Benn speaking of the "unanimous tradition" of Greek philosophy that "like can only be known by like" in a way that showed that he must for the moment have forgotten the rival doctrine of perception by opposites hinted at by Heracleitus and elaborately worked out by Anaxagoras. And again I did not and do not know what to make of the remarkable assertion that Parmenides identified space with "pure reason" (*op. cit.*, p. 42). These are perhaps small points, but they do not augur altogether well for the accuracy or the judgment of the writer, and it is therefore with the less hesitation that I venture to call in question Mr. Benn's whole theory of Plato's later ontology.

In holding that certain of the later Platonic dialogues represent a wholesale reconstruction of the metaphysical teaching of the *Phædo* and *Republic*, Mr. Benn is, of course, in accord with Dr. Jackson and Mr. Archer-Hind. But it is rather disconcerting to find that his view of the line which the reconstruction took is directly opposed to theirs. According to Mr. Archer-Hind the radical defect of the metaphysics of the *Republic* was Plato's failure to insist sufficiently upon the transcendence of the Idea and its absolute severance from the sensible thing; according to Mr. Benn it is precisely this transcendence which the *Republic* teaches, and which it is the aim of the *Parmenides* and *Timæus* to do away with. The *Parmenides*, in fact, is intended to show that the transcendent Idea is a purely "nonsensical conception," while the *Timæus* provides us with a positive substitute for it. Thus, if Plato really in his old age undertook the remodelling of his fundamental doctrines, we must suppose that he expressed himself so obscurely that two learned and devoted students can contradict one another point-blank as to which is the original doctrine and which the amended version. I submit that the supposition is a most unlikely one, and that the disagreement of the interpreters strongly supports the view, which I wish to urge in this paper, that there is no real difference of principle, but only a difference in the fulness and mastery with which an identical principle is set forth, between the earlier and the later dialogues. In the present paper I propose to confine myself to the consideration of Mr. Benn's views on the *Parmenides*; I may perhaps have the opportunity to deal with some points in his interpretation of the *Timæus* in a later article.

The thesis which I wish to maintain is briefly this. There is no essential difference but a most essential agreement in respect to the position of the Ideas between the *Parmenides*

and the *Phædo*, with which dialogue the *Republic* is universally admitted to be in complete accord. What difference there is is simply due to the fact that the *Parmenides* expressly recognises and attempts to answer questions of which the earlier dialogue simply presupposed the solution. If this can be established it will follow that the *Republic* must still possess for us the central position which it has always hitherto held in the exposition of Platonic philosophy, and the various recent theories which see a revision rather than a development of its teaching in the later dialogues will have to be abandoned. My purpose, as far as the *Parmenides* is concerned, will be accomplished if I can show that both the problems and the results of the dialogue are inevitably presupposed by the view taken in the *Phædo* of knowledge and its objects. In arguing this point I desire to confine myself in the main to the earlier portion of the dialogue (pp. 126-136), in which Parmenides states his objections to the doctrine of Ideas as formulated by the youthful Socrates. Of the longer and more perplexing second half of the dialogue I have previously propounded an interpretation,¹ in the main agreeing with that of Zeller, but very different from that suggested by Mr. Benn. From his silence I infer that he does not think the principle of that interpretation worth examination, while I for my part am as strongly convinced as ever of its general rightness; hence controversy on the point would probably be useless. As however the key to the second part, in my judgment, lies in a right understanding of what goes before, it will be enough for my purpose to deal with the introduction, as we may call it, to the dialogue, which was rather too perfunctorily treated in my former papers.

For the right understanding of Plato it is most important to realise from the first that the antithesis between a period of "transcendent" and another of "immanent" Ideas in his philosophy is a false one. If you mean by the "transcendence" of the Idea no more than that it is asserted to be other than the objects of sense, and differently apprehended, then transcendence is taught in the *Phædo* and *Republic*, but it is equally taught, and on precisely the same grounds, in the *Timæus*. And if you mean anything more than this, it is not taught anywhere in Plato. In the *Phædo*, for instance, the Idea is "present" in an unexplained way to the sensible

¹ See MIND, N.S., Nos. 19, 20, 21. Subsequent study of the dialogues, and more especially the perusal of M. Milhaud's *Les Philosophes-geomètres de la Grèce*, has satisfied me that, while the general character of the interpretation there advocated is correct, insufficient attention was given to the mathematical bearings of the dialogue.

particular, and is the cause by its "presence" of the qualities of the particular. In the *Republic*, where the supreme Idea is said to be even beyond truth and existence, as Mr. Benn reminds us, it is also said, as he does *not* remind us, that the sun in the visible world is the "offspring" of the "Good" "begotten in its own image," and the whole point of the immediately following metaphor of the divided line is to insist on the thorough-going connexion, continuity, and analogy of existence and experience, from the lowest to the highest levels.¹ It is surely an entire misreading of Plato's words when he is taken to mean only that the world of Ideas is *not* the world of things, or that perception is *not* knowledge. The positive connexion is at least as real in his view as the unlikeness. It is not in Plato that we can find any countenance for the Indian notion that the things of sense are a mere illusory show. Our first step to a true insight into his meaning must be to set on one side this false and misleading antithesis of the immanent and the transcendent, which seems to make as much havoc of some recent Platonic exegesis as it does of metaphysics, if allowed to get a foothold there.

Let me take a simple illustration which, besides exhibiting the worthlessness of this false antithesis, is adapted to lead us straight to the heart of Plato's thinking. It is a commonplace, or ought to be so, that the curves studied by the geometer are not as such accessible to sense-perception. The difficulty is not the merely mechanical one that you cannot actually draw a circle with all its radii exactly equal, a line of absolutely uniform direction, etc.² If this were all the case of the geometer would not have all the interest which Plato rightly attributed to it for the general theory of science. For it may be said, though on measurement the radii of my circle might be found to be only approximately equal, and though their inequality might even be made directly apparent to the sense of sight by a magnifying glass, yet geometry deals with the forms of the visual world as they are directly presented in the visual perception, and hence, so long as the radii of my circle are visibly equal, the circle as seen is a true geometrical circle; the circle as measured or as seen after magnification is in strictness not the same object, and therefore as a student of geometry I am not concerned with it.³ The real problem

¹ *Phaedo*, 100 d. *Rep.* 509 ff.

² Though, of course, this difficulty among others is one of the problems which suggested to Plato the Ideal theory (*Phaedo*, 74).

³ This, I suppose, would be in principle the Kantian view of the nature of geometrical science.

goes much deeper, and it is this. What I study when, *e.g.*, I investigate the properties of the circle from its Cartesian equation is a universal type of relation between positions; what I should see, even assuming an impossible accuracy of construction, would always be only a *special case* of this relation. Thus any circle, however accurately drawn, has its own special degree of curvature, according to the length of its radius, or to take a still more striking example, any actual case of a "central conic" must be either ellipse or hyperbola, but the general central conic, of which I may find the equation and investigate the properties, is at once, and as you please to call it, both and neither. And so generally, the object of geometrical study is at once a thing which has no meaning except as a rule for the determination of visual extension, and is also as such incapable of being given in a visual perception. If we were asked, in the language of the bad old antithesis, "Is the central conic transcendent or immanent?" there would be no answer, short of the reply, "Both and neither". It may be called immanent, in the sense that it has no actuality except as realised by the construction of a visible outline of which it determines the type; it must be called transcendent, in the sense that you can never even as a pure "form of intuition" perceive it in its true generality.

I said just now that this example takes us into the heart of Plato's thought about the Ideas. Too little attention has sometimes been paid to the various examples of the Ideal existences which are given in the various dialogues. Plato's meaning has been supposed to be adequately indicated by such half-jocular instances as that of the Idea of a bed or table in *Republic*, 10. If however we set ourselves to penetrate Plato's meaning by attending to the instances of the Ideas which occur where the conversation is assumed to be between trained members of the philosophic schools, we shall find that he does not allow himself to depend upon popular illustrations of this kind. In the *Phædo*,¹ for instance, the

¹ *Phædo*, p. 74, αὐτὸ τὸ ἴσον; p. 75, τὸ καλόν, τὸ ἀγαθόν, τὸ δίκαιον; τὸ ὅσιον as examples of Ideas; p. 100, τὸ καλόν, τὸ ἀγαθόν, τὸ μέγα; p. 101 ff., μέγεθος, πλῆθος, σμικρότης, μόνas, δύοas; p. 104, ἡ τῶν τριῶν ἰδέα and ἡ ἰδέα τοῦ ἀπρίου (the argument also seems to imply at pp. 104-5 that θερμὸν and ψυχρὸν are ideas); p. 106, αὐτὸ τὸ τῆς ζωῆς εἶδος.

In estimating the value of the references to ideas of bed, table, etc., in the *Republic* we must bear in mind that none of the interlocutors there are philosophic companions of Socrates, hence the comparative avoidance of technical terms of the school, and the use of "popular" illustrations. Socrates adopts a different tone when he is talking with philosophers like Simmias and Cebes. The example of the εἶδος of the shuttle in *Cratylus* 389 b-d is instructive as showing, on reflexion, why σκευαστά are said, in

Ideas which are cited fall into two main classes; there are (1) first and foremost, Ideas of mathematical properties and relations, equality, magnitude, multitude, paucity, and (2) of moral and æsthetic qualities, the just, the beautiful. The mention of an Idea of Life may perhaps be taken to show that the series of organic types was also already recognised as belonging to the system of Ideas. And it is instructive to observe that it is from a mathematical relation, that of equality, that the whole discussion starts. Similarly in the *Parmenides*, when Parmenides questions Socrates as to the contents of his assumed Ideal world, it is our moral and mathematical ideals, which form a body of standards or norms to which experience only imperfectly approximates, that are chosen as the most certain and obvious instances of Ideal existences. Then follow organic types, the Idea of man, etc., and in the third place, and more doubtfully, other things possessed of common qualities and called by a common name. If I had space here to write out the results of an experiment I once performed of noting down very carefully the examples of Ideas given in the more important dialogues, the list would, I believe, of itself prove that, except where the theory has to be made intelligible to persons who are assumed to stand outside the strict philosophic curriculum of Plato's school, all the cases which occur are those either of (1) mathematical, moral, and æsthetic "norms," or (2) of organic types and the organs and elements which enter into their composition. And both these classes can be ultimately reduced to one common type, that of mathematical relation. For it is, on the one hand, in order and proportion that Plato sees the fundamental character both of moral goodness and of æsthetic beauty, and on the other, every organic type is for him determined by a special quantitative relation between constituent elements, which in their turn are themselves constituted by mathematical laws out of the primary triangles.¹ Thus in the end we seem justified in concluding, with M. Milhaud in his most instruc-

some dialogues, to have corresponding Ideas. It is because the purpose for which the implement is fashioned demands a certain mathematical proportion between its various parts, and it is this proportion which is the *eîdos* of "bed" or "shuttle". For proof of this I must refer to the body of the present paper. I see no adequate ground for attributing to Plato himself the Academic view often referred to by Aristotle that there are no Ideas of *σκευαστά*. If the *ὅποσα φύσει*, to which according to Aristotle Plato confined the Ideas, may include the triangle (which does not exist till you draw it), why not the bed or the shuttle?

¹See *Philebus*, 51 d ff. (beauty), 64 c ff. (goodness), 31 c ff. (animal organism).

tive and original work, *Les Philosophes-geomètres de la Grèce*, that the metaphysical problem suggested by the existence of the mathematical concept is the very basis of Plato's whole theory.¹ I venture to think that this would have been recognised long ago but for the assumption that Aristotle cannot have omitted anything in his account of the influences under which Plato's thought took shape. Yet what more likely than that Aristotle, whose own mathematical attainments are shown by numerous passages in his writings to have been, to say the least, common-place, should have failed to do full justice to the particular element in his master's thought which he was personally least fitted to understand?

If the foregoing argument be accepted, as I think it must be, it will follow that Plato conceived the relation between an Idea and the corresponding sensible particular to be in principle the same as that between what we should now call the general equation to a curve and such a special instance of the curve in question as can be got by giving a numerical value to the coefficients of the equation and proceeding to trace the line thus determined. And we may at once draw a consequence which will account for many of the peculiar difficulties which Aristotle and every later critic have found in the Ideal theory. Plato, like Spinoza after him,² unconsciously evaded the worst difficulties of his doctrine by taking as the typical case of the relation of universal and particular a case in which the particular is no more a concrete physical thing than the universal itself. Hence, among other things, the insoluble puzzle of the relation of his Ideas to causality. In the realm of mathematical truth, in which the whole theory originated, causality has no place; but the moment you transfer your attention to the problems of the physical world the question at once arises, Do the Ideas, or do they not, determine the corresponding particulars into existence? If you say Yes, there is the difficulty acutely formulated by Aristotle, How is it then that *e.g.* a particular horse cannot come into existence without the copulation of a pair of pre-existing horses, and again how can artificial products, of which there is not, according to the view which

¹ See especially *op. cit.*, bk. 2, ch. v., to my own mind far the most original and important of recent contributions to the study of Plato. I shall draw exceedingly freely in what follows upon the learned author's results.

² See *Ethics*, ii., 7, *schol.*, where Spinoza without the least misgiving takes as his illustration of the identity of a mode of extension and the idea of that mode the case of the "circle existing in nature" and the idea of the circle in the mind of God.

was current in the Academy in Aristotle's time, supposed to be an Idea, come into existence at all? If you say, No, and fall back, as Plato himself usually does, on the thought that the Idea is a formal, or as the Neo-Platonists said, a paradigmatic cause, but the agency of Soul the efficient cause of all changes, the question at once arises, how your two ultimate principles, Ideas and Soul, are to be co-ordinated. (A problem, be it observed, which is simply ignored when it is coolly taken for granted without inquiry that the "Demiurge" of the *Timæus* is "purely allegorical".)

I may perhaps be allowed in passing to observe as an act of justice to an often unintelligently decried school of thinkers that it is precisely the absence of a clear answer to this all-important question in Plato's own thought which led to the so-called "trinity" of Plotinus and the still more elaborate triadic constructions of Proclus. Whatever else we may think of these doctrines they manifestly represent a legitimate attempt to bring Plato's two principles, "the Good," or supreme Idea, and the Soul, into some intelligible relation with one another, and the Neo-Platonists may therefore, as to the central doctrine of their system, fairly claim to be true continuers of the Master's work.

To return for a moment to the Platonic theory as outlined in the *Phædo*. It should be apparent that the dialogue suggests the ancient problem of the One and the Many in what at first might seem two distinct forms. We may ask (1) how the one Idea can be equally present to an indefinite multiplicity of things without losing its unity, and (2) whether the problem of the One and the Many will not break out again within the Idea's own nature. It is the great achievement of the first part of the *Parmenides* that it shows these two questions to be really one, and indicates that the true way to deal with (1) is by finding the answer to (2). That answer itself might be discovered, as I think I myself among others have previously shown, in the "hypotheses" of our dialogue, but is still more directly contained in the *Philebus* and *Timæus*.

We may now attack the portion of the *Parmenides* with which my paper announced its intention of dealing. And in doing so we shall be greatly assisted by turning at the various stages of the argument to those mathematical illustrations which are never far from Plato's thought and never long absent from his language. What obscurity there is in the reasoning of *Parmenides* is in the main, I think, due to our reluctance to "clothe his principles in facts" by con-

stantly recurring to definite examples of the class of scientific problems upon which the whole Platonic theory is demonstrably based. If we will only take this trouble, the purport of the dialogue at once becomes positively perspicuous. Let us begin then by assigning a precise meaning to the *aporia* of Zeno with which the discussion starts. As briefly summarised by Plato, Zeno's argument runs thus; things cannot be a Many, for, if they are they will be both similar and dissimilar, and this is absurd (127 *e*). To realise the probable meaning of this we need to remind ourselves that the polemic of Zeno was directed against the Pythagorean view of the composition of geometrical figures out of points, and that its special object was to establish indirectly the continuity of extension. Probably then we ought to interpret the antinomy in some such way as this. If figured extension is made up of points having magnitude as is held by the Pythagoreans, (a) all lines will be straight, and there will be no qualitatively dissimilar curves. For, if the straight line itself is made up of these points, of course the "point" itself will also be a *straight* line of unit length, and what we commonly call curves of various kinds and orders must therefore be, not approximately but in reality, so many open or closed rectilinear polygons. (b) But again, since lines are made up of points, which are really unit lines, it will also be open to us to argue that there must be as many different kinds of unit lines as there are kinds of curves; there will have to be not only one unit for the circle and another for the ellipse, but, since the curvature of one circle or the eccentricity of one ellipse is not the same as that of another, there must be a different unit for each circle and for each ellipse; thus "if things are a Many," they must be at once composed of repetitions of one and the same identical element and of as many qualitatively unique elements as there are "things" in the Many. Thus they are at once "like and unlike". And, I may add, there is a grave objection to taking what at first might seem the simplest way out of the difficulty by adopting the second of these alternatives. That, so long as you regard the line as actually made up of a sum of points having magnitude, you cannot meet the difficulty by regarding the unit of each kind of line as unique is proved by the fact that a curve and a straight line may coincide at one or more points (they may cut or touch). Hence until we find some other explanation of the relation of the line to the points which, to use modern terminology, satisfy its equation, than that which treats the points as constituent parts of the line, Zeno's antinomy is insoluble. It is on the

problem just raised, how to conceive of the Idea without making it a constituent part of the thing to which it is present, that the whole of the following argumentation turns. The polemic of Parmenides in the dialogue aims in fact at one simple result, *viz.*, the proof that the Idea must not be conceived as a constituent part of the sensible thing of the same common name. This has been in my judgment so conclusively shown by M. Milhaud in his already quoted work (bk. ii., ch. v.), that I should have thought it superfluous to publish the present paper, were it not that his admirable remarks on the text of our particular dialogue seemed capable of being reinforced by a more detailed examination of the actual words of the text than was suitable for a work dealing with the Platonic philosophy in its whole extent.

On the speech with which Socrates follows up his recapitulation of the argument of Zeno it is not necessary to dwell at length. Two points in it we may just take note of in passing. One is that the passage 129 *d-e* aims at indicating that the problem of Idea and thing is only a corollary of the more fundamental problem of the double character of the Idea itself, as at once One and Many, or, to use another Platonic name for it, the problem of the intercommunion of the Ideas. Hence the inclusion of rest and motion among the "separate and self-existing forms" of this passage ought of itself to warn us against any interpretation of Plato which sets up a difference between the Ideas canvassed in the first part of the *Parmenides* and the categories of the *Sophistes*. The other is that with this speech of Socrates the geometrical problem in Plato's mind takes on a slightly different form. The question, What is the relation between the circle as defined by its equation and the various circles obtained by giving a series of numerical values to the coefficients? to avail ourselves once more of the convenient modern way of putting a perennial problem, passes into the root-question, What is the meaning of speaking of the circle or other curve as a *locus*, or as constituted by an equation? (This seems to me one of the simplest illustrations I can devise of Plato's meaning when he says we have to ask how the Idea itself can be both one and many, and I recommend the study of it to any one who is tempted to think that showing an Idea to be at once one and many amounts to proving it "a non-sensical conception".)

The argumentation of Parmenides himself begins at page 131 *a* with a dilemma. It is assumed that, if the Idea is inherent in the thing, it must be present to it either as a

whole or only in part. Then in the first case the Idea loses its unity by multiplication, and there is a distinct Idea inherent in each particular belonging to the given class; in the second, it loses its unity by indefinite subdivision, and the impossible consequences of this supposition are followed out at somewhat greater length. It will be worth our while to illustrate both sides of this new antinomy by reference to the same body of mathematical conceptions with which we have all along been dealing. The first of the alternatives suggested by Parmenides would be realised if *e.g.*, every accurately drawn geometrical circle were in every respect an exact facsimile of every other, just as every correctly struck exemplar of the same coin would be of every other coin struck with equal accuracy from the same die. This would be the case if in the general equation of the curve the coefficients and the independent term had fixed numerical values, so that the only remaining difference between two circles, two parabolas, etc., would be that of position of the origin of co-ordinates, as determined in turn by reference to some standard system of axes. On these terms and on no others would it be possible for the "Idea" of the curve, *i.e.*, the relation expressed by the general equation, to be entirely exhausted in the single exemplar.

This way of regarding the relation of the curve to its "equation," it should be observed, would naturally follow from the Eleatic view of the extended as a mere continuum. For the moment you try to explain how *e.g.* two circles can be equally circles and yet have different curvature, you are driven to fall back upon the conception of the circle as a form of relation between a plurality of elements of some kind or another, and thus to admit the discontinuity, in some sense yet to be determined, of the extended. Whether you regard these elements in Pythagorean fashion as constituent "parts" or not makes no difference to this result. The second alternative again apparently corresponds to what we know to have been the Pythagorean view of the nature of extension; the "Idea" is now supposed to be itself composed of an indefinite plurality of parts which are outside one another. Thus the circle, for instance, is taken as being simply formed by the repetition of an indivisible unit line or Pythagorean point, and it will follow that, as any one actually perceived circle only contains a limited number of these units, part of the "Idea" will constitute this particular curve, and another part, *i.e.*, other similar units, some other curve of the same kind. Such at least was the Pythagorean view of the straight line, and it is reasonable to suppose that other lines

were regarded in the same way. Hence the effect of the demonstration that neither view is tenable is to show the necessity of a third doctrine which permits of justice being done at once to the aspect of continuity and to that of discreteness in extension.

We may shortly see reason to hold that Plato's view, which is to be at once non-Eleatic and non-Pythagorean, depends upon the recognition of the difference between perceptual and conceptual extension. We must, however, first proceed with our examination of the actual words of the dialogue. To the general argument against the divisibility of the Idea Parmenides goes on to append a statement of certain absurd consequences which will follow if we still persist in upholding the Pythagorean view. The nature of these absurdities has not, I think, always been perceived, certainly I myself in my previous articles on the dialogue entirely failed to throw light upon them. From the standpoint we have now reached however they do not seem to present any special difficulty. The first of them, as formulated by Parmenides, reads thus (131 *c-d*): "if you make magnitude itself consist of parts, and say that each of the many *magna* is *magnum* in virtue of a portion of magnitude less than magnitude itself, will not the consequence appear absurd?" If we remember that the term μέγεθος regularly occurs in Greek philosophical language as the special name for a *geometrical* magnitude, a quantum of extension, it will not be difficult to seize the speaker's thought.¹ We may expand the reasoning in some such way as this: if the Pythagorean view of the unit of extension is sound, then any finite magnitude, a straight line for example, is a quantum precisely because it contains so many repetitions of the unit of quantity, the point, which latter is on this view αὐτὸ τὸ μέγεθος; but the unit itself is also a quantum, and by parity of reasoning must therefore be itself composed of still minuter units "of a higher order," and thus in the last resort every quantum will be composed of quanta less than the supposed ultimate unit itself. Very possibly it may have been the discovery of incommensurables (the significance of which for the history of Greek metaphysics has been so powerfully exhibited by M. Milhaud) which led to the formulation of this particular difficulty, though of course it is really involved in the construction of *any* extended quantum out of indivisible units.

¹ See for instances of this use of the word Bonitz's *Index Aristotelian*, *sub. voc.*, and compare particularly the definition at *Metaphysics* Δ 10, 20 *a*, 9. πλήθος μὲν οὖν ποσόν τι εἶναι ἀριθμητὸν ἢ, μέγεθος δ' εἶναι μετρητὸν ἢ κτλ.

For suppose we have realised the incommensurability of the "side and diagonal," and wish to reconcile our discovery with the Pythagorean view of extension. We can only do so by assuming that side and diagonal are respectively multiples of mutually incommensurable unit lines. Thus if the side of the square consists say of n unit lines each equal to x , the diagonal must consist of n units each equal to $x\sqrt{2}$; then comparing the side-unit with the diagonal-unit, the latter exceeds the former by a quantity *viz.* $x(\sqrt{2}-1)$, which we shall have to regard as composed of still minuter units incommensurable with x , or, as Parmenides is made to say, "by a part of magnitude less than magnitude itself".

The same set of ideas underlie his next paradox; "Can one quantity be equal to another by something less than equality itself?" On the Pythagorean theory the equality of two lines would be due to the fact that each contained the same number of units. Each side of the square is equal to each of the rest because each contains n times the unit line. But, we may understand the opponent to rejoin, it is tacitly assumed that not only the number of units in each side but also the individual units themselves are equal, otherwise the resulting lines will be unequal. And on Pythagorean principles the equality of the units can mean nothing but that they in turn are composed of an equal number of more ultimate units, and this is inconsistent with their supposed indivisible character.

The last of Parmenides' supplementary arguments against the Pythagorean position is harder to understand, and this is perhaps why certain persons of whom Proclus speaks wished to reject the passage (131 *d-e*) as spurious, though it is not easy to see why, if not genuine, it should have been inserted. I venture with some diffidence to suggest the following as approximately representing Plato's meaning in this obscure sentence. On the Pythagorean view the point or unit is of course a *minimum* of extension and may thus fairly be taken to be signified by the expression "the small itself". But the point, as we have already seen, is itself, for the Pythagoreans, a quantum, and it therefore contains parts, each of which is, in Plato's words, "smaller than the small itself". Now suppose you add one of these parts to one of two equal magnitudes, what will happen? The magnitude so augmented will not become larger than the other, for it can *ex hypothesi* only be larger if it contains a greater number of units; it will not remain equal, for equality means composition out of the same number of equal units; thus nothing

remains but to say it must have been made less by the addition. In fact a quantity less than the unit, if there were such an indivisible minimum as the unit, would be, as we should now say, a negative quantity; to add it to anything is to subtract from the thing. In other words, there can be no such thing as an absolute minimum of quantity which is not zero. If understood in this way, the argument together with its predecessors forms just such an antinomy as that by which the historical Zeno contended that, on the Pythagorean view, every magnitude must be either infinity or zero. This would agree well with our suggestion that one half of Plato's general argument is directed against Eleatic and the other against Pythagorean theories of the extension studied by the geometer.

We now see why Parmenides proceeds straight from the considerations we have dealt with to the "third man" objection to the Ideas (132 *a ff.*). For that objection simply states in a general form the principle of the Pythagorean error already exposed. In each of the three puzzles just exhibited the source of our difficulties was that by treating extension as made up of indivisible units we were driven to assume an infinite number of successively diminishing orders of these units. Thus our Idea turned out to be "not one but indefinitely numerous". The passage in which this famous crux is brought forward then does not raise a new difficulty, but simply puts the old one in an abstract form. Hence if we wish to know what was Plato's answer to the "third man" argument, which Aristotle seems to have thought so irrefutable, we must find out his conception of the relation between the geometrical curve as defined by its characteristic property and the directly perceived curve accessible to sense. Or, what is the same thing, we must discover the theory of extension by which he hoped to escape at once from the Eleatic and from the Pythagorean side of the dilemma which arises when only one extension, the purely perceptual, is admitted, and it is then asked whether this perceptual extension is continuous or discrete.

On the "third man" difficulty itself I do not propose to add any observations. The method by which Socrates proposes to evade the difficulty will, however, repay a brief examination. He suggests, and some rash readers have held that Plato did wrong in rejecting the suggested solution, that the Idea is merely a concept in the mind (132 *b*). At first sight this no doubt seems a good answer to the question how it can be at once one and many, for common-sense finds

no difficulty in admitting that the same predicate can be thought or uttered about any number of different things. In fact the proposed version of the doctrine would bring it very near to Aristotle's view of the requisites of predication; the Idea would become a *ἐν κατὰ πολλῶν* instead of a *ἐν παρὰ τὶ πολλά*. Only, as Parmenides is careful to point out and Aristotle not always anxious to remember, we should have escaped from our difficulty by ignoring it. For the unity of the concept is not psychological but logical; it is one concept because it has a single reference or meaning not because it is in some unexplained way "one mental state," whatever such a phrase might mean. In Plato's language, the one concept is one in virtue of having one object which is conceived through it; thus we are brought face to face with the problem, so often neglected by the popular philosophy of all ages, of the relation between truth and reality. The concept, to be valid at all, must have a reference to something which falls outside its own existence as psychical fact, and this something must in some sense be a unity, so that the problem of the Platonic Idea is still with us. The passage of our dialogue is only one of many which show that Plato was aware to an extent to which few philosophers have been so of the impossibility of that "cheap and easy monism" which takes it for granted that logic and reality, truth and immediate fact, can be simply identified without further ado. That an interpretation which would make the unity of a concept lie in its mere existence as a psychical fact should have found favour with modern interpreters of Plato, under the form of an identification of the Ideas with the thoughts of God for instance, is simply not creditable to their own logic. The conclusion of the passage, with its dilemma that if the Idea is a mere concept either all things think or there are unthought thoughts, points out the inevitable consequence which arises from the initial mistake of identifying reality with mere psychical existence as such. It does not, of course, in any way exclude the view that existence as a psychical event is an inseparable aspect of all reality. It is valid against all forms of the doctrine that reality is a mere collection of "states of consciousness," but must not be confused with the vulgar "realist" view that there is existence which has no aspect of psychical fact at all.

Of the connexion of the argument just examined with the following investigation of the hypothesis that the Idea is a sort of transcendent type which the particular "imitates" I have spoken at length in my previous articles on the *Parmenides*, and I have nothing in principle to add to the proof

I there gave that the theory of "imitation" is not put forward as Plato's own solution of the difficulties he has raised about "participation". Here we may be content simply to remark that this interpretation is excluded by two very simple considerations; the new formula is shown to lead to the very result which was fatal to the old, the "third man" and the indefinite regress (132 *d*-133 *a*); also it is found to involve agnosticism pure and simple. For it amounts to declaring the absolute severance of Idea and thing. To recur to our mathematical example, the circle as studied by the geometer and the circle you can see are now placed in two distinct worlds, and we have just seen that we cannot bring them into relation by calling the one "like" the other without falling into the indefinite regress. Hence all the various properties of the curve of the geometer will belong solely to it and have nothing to do with the seen curve. For instance, suppose we deduce from the equation of the curve the equation of its tangent; the result will hold good only for the geometer's circle, and will have nothing at all to do with relations between the seen circle and the seen tangent. And therefore it will be no longer possible for us to hold, as Plato had done in the *Phædo*, that the seen curve and tangent of a diagram "suggest" the relation between the conceptual curve and the conceptual tangent; with the destruction of all bridges between the seen and the conceptual now effected, it becomes impossible to understand how mathematical studies should ever have arisen. In short we have been brought to the same *impasse* to which Mill conducts us when he first declares that the lines, circles and points of the mathematician are copies of those which he has seen in the course of sense-perception, and then runs away from the consequences of his assertion by going on to say that no one has ever seen anything corresponding to the curves of mathematics and therefore the conclusions of the science are not really true. Hence we can see why Plato still maintains that unless we can find a way out of our difficulties consistent with maintaining the existence of Ideas, all science is impossible.¹

The result we have reached is in fact this. The science of quantity, and for Plato all real science is quantitative science,

¹ The same difficulty arises, in a slightly different form, by such a view of the relation between concepts and percepts as is maintained in Prof. Karl Pearson's *Grammar of Science*. The reader has constantly to ask himself, "if the perceptual and the conceptual are so absolutely disparate, how comes it that the results of our conceptual science can be applied to the course of the perceptual order?" The learned Professor himself seems inclined to sit down here with a "final inexplicability".

the discernment of infinite numerical relations in the manifold, is a mere delusion if either of the two great conflicting views, that extension is a mere continuum or that it is a mere aggregate of purely discrete units be accepted. Neither Eleaticism nor Pythagoreanism provides us with a satisfactory theory of the relation between the curve as a continuous and single qualitative datum and the numerical infinity of discrete positions which can be taken upon it. Eleaticism, by affirming continuity pure and simple, had burked the problem; Pythagoreanism, by attempting to treat the positions as themselves extended and as constituent parts of the curve, had fallen into the absurdities of the indefinite regress. And the source of error has been the same in both cases. The thing and the Idea have been treated as if they were both existences of the same order, as if each in fact was a thing in the sensible world. The reason why the earlier philosophies made this mistake again is that they failed to distinguish conceptual from perceptual extension.

The real problem before Plato is therefore to provide for this distinction, and it has been elaborately shown by M. Milhaud that it is here that the theory of "ideal numbers" comes in. The general lines of the solution can indeed be divined from the hypotheses of the latter part of the *Parmenides* itself. We can there see that Plato is affording us hints of a view according to which the Idea is at once one, that is to say a unique form of qualitative existence, and many, that is dependent in some way upon a quantitative law of the inter-relation of the indefinitely manifold. The full understanding of his view has however, as is well known, to be sought in the *Philebus* and *Timæus*, as read in the light of what Aristotle has to say about the ideal numbers. Thanks to the insight of M. Milhaud the meaning of these ideal numbers can be said to be no longer doubtful. The ideal number is a quantitative law by which a unique quality is determined. And, as its character of a number shows, the relations in question are those between positions in space, and the unique qualities are qualities of extension as actually perceived by the senses.¹ The ideal number is, in fact, precisely what we know now as the equation to a curve or surface. Two points in connexion with it are specially noteworthy. The first is that the numbers, unlike those of arithmetic, are incapable of addition to one another. This is because the numerical formulæ are rules for the constitution

¹ I do not mean that nothing but what is spatial can be counted, but that Plato pretty certainly held that it is so.

of distinct qualitative existences. One such formula will define a circle and another an ellipse, but you cannot add the equation of the circle to that of the ellipse as you can add numbers in arithmetic, in order to obtain a third equation as their sum. The second point is that these numbers, unlike those of the Pythagoreans, are not composed of sensible units. This means that Plato, probably for the first time in the history of thought, distinguished between perceptual and conceptual extension. And it is important to observe that the character of numerical multiplicity belongs to the extended in its conceptual, the character of qualitative uniqueness in its perceptual aspect. As perceived by sight the circle, for instance, is a continuous line with a peculiar qualitative structure of its own, unlike that of any other curve than a circular one, and to a less degree unlike that of another circle with a greater or less degree of curvature. It does not, as a perceived figure consist of or contain points, as the Pythagoreans had thought. It is only when by an act of thought we analyse its construction, and find that it may be mentally represented as the line upon which any position satisfying a certain quantitative relation will be situated, that its aspect of numerical multiplicity becomes apparent. This consideration may perhaps throw light upon the language used in the *Timæus* (52 b), according to which the space which is the universal unchanging receptacle of generation cannot be perceived by sense, but must be apprehended by a sort of "bastard reasoning". For the space of which Plato is there speaking is not extension as perceived at all; perceptual extension with its content of infinitely various qualities and shapes corresponds to the visible world of changing existence itself, not to its mysterious substrate. By the substrate is meant that indeterminate something which is variously specially determined in its various parts by the different numerical relations or equations upon which the multitude of qualitatively different curves and figures depend, *i.e.*, space, conceived simply as an indefinite plurality of homogeneous quality-less positions. If I am able, in a subsequent article, to examine some of the problems raised by Mr. Benn's treatment of the *Timæus*, I shall hope to show that failure to realise that Plato's "third form" in that dialogue is conceptual, as distinguished from perceptual, space, has been responsible for some at least of the difficulties which interpreters have found in the doctrine.

For Plato then, if we are right in our main contention, the whole of the world of quality belongs as such to the sphere of the sensible; it is only of quantitative relations

that there is any true science, and thus it is by no unfortunate leaning to Pythagorean symbolism but as a necessary logical consequence of his central doctrine that he finally identified the Ideas with the principles of number. How completely he did so can easily be seen from his writings if the mathematical physics of the *Timæus* be studied side by side with the treatment of proportion and symmetry as the essence of goodness and beauty in the *Philebus*. From our own modern point of view this identification of science with the study of quantity is hardly likely to be judged satisfactory; on the contrary, many circumstances, especially the growth of psychology into a great independent scientific discipline, have led to a growing conviction that there are, or may be, branches of scientific knowledge which are non-quantitative, but the quantitative ideal in science still retains sufficient attractiveness for many minds to enable us to realise how much it meant to the philosopher who formally prescribed the study of geometry as the one propædæutic to philosophy.

But what then in the end, it may be asked, is on this interpretation the answer to the question with which we started, the problem of the relation of Idea to thing? Simply this; the Idea as such is not of the same order as the sensible thing, but is connected with it in a peculiar way which can only be understood by bearing in mind its character as an ideal *number*. The Idea of the circle, or as we should now say, the circle as defined by its equation in the general form, is not itself properly speaking a curve, that is, is not a unique qualitative form of perceptual extension; it is a general rule for the construction of curves of a certain kind by the mental synthesis of positions fulfilling a certain relation, and these positions themselves have no existence as parts of perceptual actuality; they do not exist in the perceived circle, but are derived from it by a conceptual analysis. Precisely the same is true of the equation to a particular circle which is got by giving the coefficients of the general equation numerical values. Such an equation, like the ideal number, is at once many, as synthesising an indefinite plurality of positions, and one, as synthesising them in accord with a definite law. Let the circle corresponding to such an equation be actually described from any point as centre, and in its unique quality as perceived you have the particular which according to Plato's phrase is what it is in virtue of the "presence" of the Idea. This language about "presence" and "participation" and "likeness" is indeed Plato's way of saying that the qualitatively unique character of the perceived curve, when you come mentally to analyse it, may be replaced by and

considered equivalent to the constitutive relation between points of conceptual space.¹

Such appears to be, in its broad outlines, the theory for which the criticism of the *Parmenides* prepares the ground. If our reading of it has been on the whole correct, we may venture to make two assertions: (1) there is no disagreement between the *Parmenides* and the later dialogues generally and the doctrines familiar from the *Phædo* and *Republic*, the theory of the "ideal numbers" being a natural development from principles inherent in all Plato's speculation; (2) failure to perceive the agreement of the *Parmenides* with the *Phædo* and *Republic*, or willingness to suspect its genuineness, may fairly be taken as evidence of thorough-going misapprehension of Plato's whole philosophy.²

¹When you come to consider the case of a concrete physical *thing* of *e.g.* circular form, you further find that it is not even an *exact* embodiment of the circle with numerically definite coefficients; its circularity is only approximate. This perhaps throws some light on the position assigned by Plato to τὰ μαθηματικά as intermediate between the Idea, in its universality, and the sensible thing.

²P.S.—I should like to take this opportunity of modifying the suggestion made in the last of my former articles (*MIND*, N.S., 21) as to the comparatively early date of the *Parmenides*. I am now satisfied that my supposition of a depreciatory reference to the dialogue in the *Philebus* was mistaken, and that the inference based upon it therefore falls to the ground. As regards the general question of date of composition of the dialogues it is necessary to avoid inferring that a dialogue in which a subject is discussed at length must be earlier than one in which the same results are briefly summarised. No one now doubts that the *Sophistes* is a later work than the *Republic*, though the view of negation elaborately established in the former is taken for granted in the latter (*Rep.* v., 478 D). Stylistic evidence—which is the only trustworthy basis for inference—surely suggests for the *Parmenides* however a position nearer to the *Phædo* and *Republic* than to the *Sophistes* or *Philebus*.

II.—A COMPENDIOUS CLASSIFICATION OF THE SCIENCES.

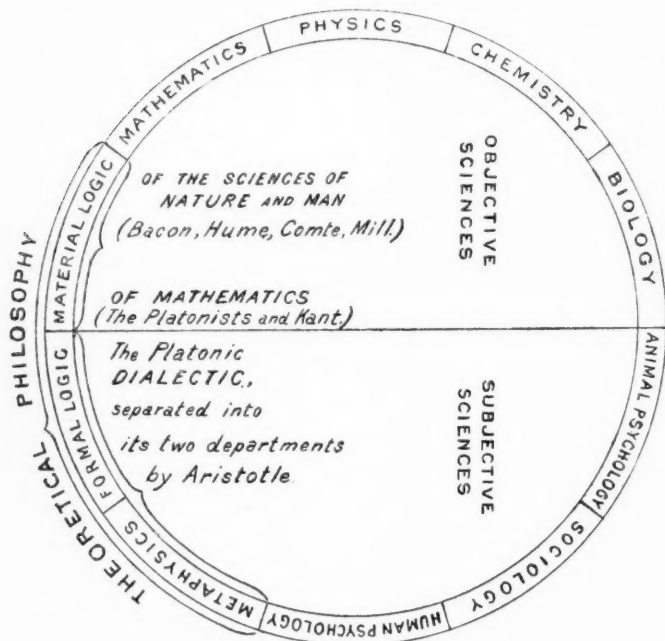
BY THOMAS WHITTAKER.

It is generally allowed that in his Classification of the Sciences Comte furnished a valuable clue to a systematic order in the objective study of nature. Metaphysicians and psychologists find his scheme at fault in its imperfect recognition of the place of subjective studies. Still, it may be noted that he himself, in his later speculations, did something to remedy this defect. After Sociology, which he at first regarded as the supreme science, he placed a Science of Morality. Further, in his *Synthèse Subjective*, he began to set forth a statement of fundamental principles underlying all the positive sciences; and, beyond them all, a view of the cosmos as animated and as related to ends. This indeed was put forward as poetry or religion, and not as demonstrated truth; but it is plainly an approximation to a more "metaphysical" view than that which he had hitherto taken. What I propose is to carry out this completion systematically, with due recognition of the validity of subjective principles which Comte himself would have repudiated, but which, as is acknowledged equally by the successors of Kant and of Mill, are indispensable for a full account of knowledge.

In Comte's final scheme the positive sciences follow one another in the order:—Mathematics, Astronomy, Physics, Chemistry, Biology, Sociology, Morality. This list itself, to begin with, needs correction. Astronomy, as Mr. Spencer has shown to the satisfaction even of some adherents of Comte, does not properly belong to the series of fundamental or abstract sciences as he conceived them. It is a concrete science in the sense in which Geology is a concrete science. Under Biology, Comte himself made a special division for Cerebral Physiology; this being his equivalent for Psychology. When Psychology is recognised by name, it is clearly entitled to a separate place. Lastly, it may be observed that

Comte's Moral Science is not philosophical ethics, but is the science of the individual human mind viewed as posterior to life in society. Thus it is really a higher Psychology; namely, that of man as possessing the attributes which distinguish him from brutes.

When from the correction of the list we proceed to its completion, we find that before Mathematics must come Logic (Formal and Material) viewed as a philosophical



science. After the higher branch of Psychology comes Metaphysics (as Theory of Knowledge and as Ontology). We are now presented with the result that, to figure the amended classification, Comte's linear series, provisionally conceived as in a straight line, must be bent into a circle. For a series beginning with Formal Logic and ending with Metaphysics is subjective at both extremes. Moreover, in the speculative though not in the didactic order, Metaphysics as Theory of Knowledge precedes Logic. This is represented

in the above diagram. The additional points there figured will be explained in the sequel.

The problem now before us is to show how the determinations of this series are consequent one on another. Beginning with Formal Logic, we may simply posit, as first principles of the science, the Laws of Thought, which, though disclosed by metaphysical investigation, can be stated with perfect intelligibility to those who have not gone through the dialectical process that establishes them. For scientific purposes, it is sufficient that they should be found to be applicable tests of formally valid thought. Nor is the metaphysical problem ever raised by their breaking down. It arises from the theoretical need felt of completing the circle. The circle becomes formally complete when the Theory of Knowledge restores to us with confirmation the principles on which we have hitherto implicitly or explicitly proceeded. Historically, it may be noted, Aristotle arrived at the Laws of Contradiction and of Excluded Middle in his *Metaphysics*.

These and the Law of Identity I hold to be laws of thought, not of things. To take specially the Law of Contradiction, which, according to Aristotle's exact way of putting it, asserts that A cannot be not-A at the same time and in the same relation. The law tells us that thought, if it would be formally valid, must not contradict itself; but it does not enable us to assert a single materially new proposition. Given a subjective world of concepts, we can maintain order among them by this and the other laws; but we cannot make any assertion that is not implied in what we have already said. Thus, unless we have, beyond the laws of thought, some general proposition or propositions about experience, we can have no science of nature. The laws of thought by themselves do not allow us to deny, *a priori*, that what objectively exists is a Heraclitean flux without the reason which Heraclitus supposed to underlie it, and without the equivalence of measure which he held to be the rule of its transformations. Let us imagine ourselves endowed with the laws of thought and presented with such a flux. The Law of Contradiction is evidently of no avail if nothing remains itself for more than a moment and if there is no constant relation of it to anything else. It is true that we are still obliged to treat the momentary existence of A as inconsistent with its non-existence at that moment; but, if that is all, there can be no system of experiential knowledge. The formal law does not entitle us to deny the complete absence of perdurability or uniformity. Thus, on the one side, it is

valid for thought whatever our experience may be; and, on the other side, we cannot by means of it anticipate experience to the smallest extent. For real availability, it is absolutely dependent on there being an order of which by itself it contains no assertion.

In passing from Formal to Material Logic, we come first to the general principles of mathematical knowledge. Since Kant's investigation of these, it is allowed that they are "synthetic" and not merely "analytic". That is to say, there are involved in mathematical demonstration propositions which are neither an affair of hypothetical definition nor can be deduced from definitions by means of the formal laws of thought. To take Kant's own examples. The geometrical axiom that "two straight lines cannot enclose a space" is not a truth that can be evolved by mere comparison of the concepts of the straight line and of space. Similarly with an arithmetical proposition such as $7 + 5 = 12$: no mere comparison of the concepts of the separate numbers can give the resulting number. In both cases, what is required is a construction in intuition or in the corresponding imagination, —a process of mental drawing, or of numbering things or events in time. And the peculiarity of mathematical principles is that, upon such construction, recognition of the necessary truth of the proposition is the outcome of a single act of comparison. Thus they are not generalisations from experience.

This last position of Kant has been contested from the experiential side. What remains incontestable is that, besides the principles of Formal Logic, mathematical science requires first principles peculiar to itself. The positions of Locke, of Leibniz, and of Hume in the *Inquiry*, are abandoned on this point. Kant's view as regards the peculiarity of mathematical reasoning, it may be observed, had been in part anticipated in the Platonic school. Plato himself had marked off Mathematics from what he called Dialectic—which was at once Metaphysics and Logic—on the one side, and from such an adumbration of Physics as was then possible on the other. Aristotle divided Metaphysics proper from Logic; and by Plato's successors, with the aid of the later Peripatetics, something was done to make clearer the precise character to be ascribed to mathematical truth. An intermediate position was assigned to it between laws valid for pure thinking, which are prior, and "laws of nature" emerging from observation or experiment, which are posterior. These distinctions were to some extent obscured in the early modern period, but may now be considered as

restored, though it cannot be said that definitive conclusions have yet been reached. It is henceforth clear, however, that the character of the special logic which belongs to mathematics can only be determined by an investigation like that of Kant's *Transcendental Aesthetic*. Such an investigation is necessarily metaphysical. Psychological theories of the origin of space as a mental form can at most furnish hints towards fixing the problem. Whatever the final result may be, Kant has determined the method of the inquiry.

For the classification of the sciences, it is sufficient to note that mathematical truth, though "material" and no longer purely "formal," does not yet suffice to determine anything whatever about the order of nature. This was fully recognised by Kant, who saw that before even "synthetic" propositions regarding space and number can be applied to phenomena, certain other general maxims, beyond both these and the laws of thought, are needed. The case may be illustrated as when we were discussing the applicability of the Law of Contradiction. Let us suppose ourselves to have the power of counting, and of drawing figures in an imaginary space. Then, if we can provide our constructions with names, and can somehow communicate with similar intelligences, we may work out a system of pure arithmetical and geometrical truth. But suppose that, so far as external nature is concerned, we are confronted with an absolute and lawless flux. Then we can do nothing whatever with our mathematical system. It is of no use to us that the results of counting and of drawing follow with necessity, if numerable things alter their number from moment to moment and figured things change their shapes at random. For abstract geometrical truth indeed it is not required that perfect triangles and perfect circles should exist in nature; but, for applicability of deductions about those geometrical figures, things marked out with figures that approximate to them must retain their shapes long enough for the deductions to be also approximately applicable during a time that is not merely infinitesimal.

To give us the least rudiment of physical or natural science, we evidently require some recognisable perdurability or constancy in things. This requirement is now expressed as the Uniformity of Nature. In antiquity it found expression partly in very slight outlines of a logic of Induction, but most expressly in axioms of which the general form was that nothing is produced from nothing and that nothing can return to nothing. This conception goes back to the beginnings of the Ionian physics. For the history of modern science, its

most important ancient phase was Atomism. The physics of Democritus and Epicurus, ready to the hand of scientific philosophers at the opening of the modern era, grew into the corpuscular Mechanics of the seventeenth century. Taken up again by Dalton from Newton, it received its most accurate and verifiable expression in the atomic theory of modern Chemistry. Meanwhile, with Descartes and the Cartesian school, there had come into clear view for the first time the idea of formulating a law of indestructibility of motion, as it was then put. For "motion" or momentum, Leibniz substituted *vis viva* or "force". At length, in the nineteenth century, the anticipated law was accurately formulated as the law of the Conservation of Energy. That Matter and Energy are alike perdurable through all change is not, however, sufficient for scientific uniformity. A law of sequence among the changes themselves is also needed. This has been expressed as the Law of Causation, and, in this expression, has been made a fundamental principle of Inductive Logic. In the modern development of the logic of Induction, the great names are those of Bacon, Hume, Comte and Mill. Since Mill, we have a logic of the investigation of nature comparable, in its systematic character, with the formal logic of Aristotle.

In their investigation of the subjective grounds of the principle of Uniformity, Hume and Mill applied themselves more specially to the philosophical or metaphysical problem. To Bacon must be ascribed distinctively the idea of methodical induction, in contrast with "induction by simple enumeration," and to Comte the idea of a scientifically certain or positive "law" of phenomena. On the metaphysical question there is now perhaps more agreement among philosophers than appears. Experientialists do not uphold Mill's view that the Uniformity of Nature is itself established by an induction from particulars; and the successors of Kant on their side do not think that experience can be constituted by mental forms or "categories" applied to a chaos of given sensations. Kant's position as against Hume being conceded to this extent, that experience has its formal elements which are as real as the matter of perception, Kantians or Hegelians hardly contend for more. The categories, they themselves allow, are immanent in experience, and do not need to be imposed on it from without. Indeed the notion that Hume was a pure sceptic without serious belief in scientific truth, or that Kant held nature to be a chaos put in order by the individual human mind, would be allowed to be too "schematic," and not agreeable to the deeper drift of

the thinkers themselves. Were "the given" a chaos, no subjective forms, call them "necessary" or not, could set it in order. Nor does it seem reasonable on the other hand that, if there are no intelligible laws to which it is really conformable, the modes of formulating it suggested from time to time by some of its casual conjunctions should agree so well with the rest. To maintain that there is now an approach to unanimity on these points may seem paradoxical. But, in the end, what historical reason is there for expecting that the opposition between *a priori* and *a posteriori* methods, or between Rationalism and Experientialism, will be the one permanent line of cleavage between philosophic schools?

After the logic of the sciences come the positive sciences as such. The first question that arises with respect to these concerns the position of Mechanics. Shall we, with Comte, place at the end of the mathematical sciences Rational Mechanics? Or shall we separate Mechanics as a whole from Mathematics, and make it the fundamental department of Physics? It seems to me that the incontestable portion of Kant's mathematical doctrine necessitates the second position. With Mechanics comes in the conception of "mass," which cannot be educed from space as a pure form of intuition, but has direct reference to data of sense supplied by the feelings of pressure and touch. Yet Comte's view was not altogether ungrounded. The higher branches of mathematics, such as those that deal with infinitesimals and with imaginary quantities, have been elaborated, as Prof. Bain has pointed out, in close connexion with physical investigations, and often for the sake of solving definite physical problems. Everything except their primary assumptions may have been evolved by pure mathematical construction and formal reasoning; but, if the assumptions themselves are not congruous with the physical order of nature, the theories as a whole remain mere curiosities, and can scarcely be regarded as in any proper sense "true". The reason for including them in Mathematics while excluding Rational Mechanics seems, however, to be this. In Rational Mechanics the idea of a moving mass is fundamental. In Mathematics, whatever may be the manner in which any of its peculiar assumptions are finally selected as worthy to form the ground of a special theory, they can be treated actually as determinations of space and number without direct reference to mass. This is of course the normal relation of a simpler to a more complex science. The fact that the more complex science furnishes it with some of its problems does not destroy its logical priority.

Under Mechanics come the Laws of Motion and the Theory of Gravitation. The latter theory was first definitely attained as the result of investigations in the concrete science of Astronomy. This, again, illustrates the relation just referred to. Gravity belongs to General Physics in so far as its theory, once attained, can be stated and worked out with reference to hypothetical masses, and without taking account of the actual masses and distances, empirically ascertained, of particular bodies in the universe. This distinction, insisted on by Mr. Spencer, was adumbrated in ancient schemes, Peripatetic or Platonic, by the division of the rational theory of the Sphere from Astronomy regarded as a partially empirical science; though the ancient distinction agreed more nearly with Comte's view in so far as the doctrine of the Sphere was assigned to Mathematics.

The divisions of Special Physics are in part determined by the particular senses receptive of the phenomena grouped together. Light, Heat and Sound refer unambiguously to the senses of Sight, Temperature and Hearing. These senses are not, indeed, allowed a share in the scientific explanation, which is referred to the so-called "primary qualities of matter," appreciated by the senses of touch and pressure; but without them the phenomena could not for us have been grouped together at all. Several senses being given, however, combined observations enable us to mark off other groups of phenomena which do not, as such, appear to a particular sense. Metaphor apart, we have no sensations of attraction or repulsion. Hence gravitation could not be directly observed, but had to be inferred from its effects in the form of pressure or motion. Electrical and magnetic phenomena have had to be indirectly appreciated in more various ways. Their common features once known, they could be made the subject of a branch of Special Physics, referred, like the others, to Mechanics or General Physics as fundamental. The reason why Mechanics is thus fundamental seems to consist essentially in the more permanently numerable and measurable character of the phenomena of perception that are its material.

Of Chemistry we may say generally that it deals with the compositions and decompositions of kinds of matter; whereas molecular Physics deals with states of aggregation of particles conceived as all alike. The complex way, however, in which Chemistry furnishes problems to Physics makes the borders of the two sciences difficult to define. For the perception of the qualitative changes going with changes of composition, it is worthy of note that the senses of taste and smell are

of account along with the others. As is of course the case also in the special branches of Physics, no demonstration that modified arrangements of simple particles accompany the qualitatively different phenomena can annul their actual differences of quality. Hence, even if matter as it must be for Mechanics were found to be everywhere ultimately homogeneous, this would not efface the division between Chemistry and Physics.

With Comte we must add to the list of objective sciences that are fundamental and abstract the science of Life. For vital phenomena are distinguishable from chemical as those from physical phenomena by presenting a new problem of general form, and not merely particular empirical aggregations to be explained by combining and applying the orders of scientific truth already determined. The general problem of Biology is fixed by the nature of living organisms, which, as such, manifest what can only in fact be described as an "immanent end". The parts of an organism act together in such a way that the union of their functions maintains, against resistances that do not overpass certain limits, the continuous existence of an individualised whole. This *consensus* of functions clearly presents a higher problem than those of Chemistry and Physics, inasmuch as we get no hint from any special sense or combination of senses for the demarcation of it. The preceding sciences furnish the instruments for dealing with the problem of organic life in detail; but that problem itself does not admit of a statement wholly resolving it into problems of Physics and Chemistry. And theories of the Evolution of Life cannot, of course, explain how there come to be living forms at all in distinction from the other objects in nature; nor, on the positive side, how those forms are transmuted so as to become, when considered in relation to the general conception of an organism, more "organic". What they really set forth is certain conditions depending on the existence of many kinds of organisms together in space and time. Those conditions being known, and the generally teleological nature of an organism being given, the account of living forms on earth can be immensely simplified; but the distinctive problem is not removed in this way any more than it is by the detailed study of physico-chemical processes in the particular organism. Of late, as it would be easy to show, philosophical Biology has become more and not less convinced of the irreducibility of its problem.

The transition from Biology to Psychology is marked by the introduction of a new method. To observation and

experiment, the methods of the physical and natural sciences, there is added introspection. This peculiar method is the condition of there being a science of Psychology at all. It has indeed been ascertained that the physiological functions of the brain are in some way concomitants of what is known to us introspectively as mind; but no observation of those functions, and no experiments, would have revealed the existence of mind in special relation with organisms if mental phenomena had not been known to us through our having reflected on them. Hence the proper name of the new science is not Cerebral Physiology, but Psychology.

By "Animal Psychology" in the diagram is not meant Comparative Psychology, or the study of the various manifestations of mind in different species of animals. This is a "concrete science". The fundamental or abstract science in relation to it is constituted by the study of mental synthesis in general previous to the formation of the Concept. Without this kind of synthesis, the actual phenomena of the human mind would, of course, be inexplicable; and, as it is common to man and at least the higher animals, the abstract science that deals with it may from that circumstance receive a name. Under this head may be studied the elements contributed to mind by the senses, and their grouping in accordance with the laws of association first ascertained by analysis of the phenomena of memory. Here already we have elementary forms of Emotion and Will, and of Reason as intelligent adaptation of actions to practical ends. The higher, and properly human, form of intelligence appears only with conceptual Thought.

To the Psychology of Man the transition is through Sociology, regarded as a fundamental and abstract science. Comparison of the various forms of human society is a concrete science, like Comparative Psychology. The fundamental character of Sociology is proved by its introducing a new mode of relation, namely, the relation between organisms that live in community and become capable of intellectual converse. In the evolution of human society, we must suppose that the passage has taken place from vague interchange of feeling and co-operation for common ends, to mutual understanding of ideas and fixation of a system of signs by which thought can control action. From the uttered sound associated with an image has been evolved the word which stands for a concept.

On Human Psychology the remark may suffice for the present that of course the power of conceptual thought modifies everything else. Perception, emotion and will are

quite other in man than they would be in an animal with only "generic images" in the place of general ideas, and with only intelligent adaptation in the place of discursive thinking. The phases of the human mind called Emotion and Will point to *Æsthetic Philosophy* and to *Practical Philosophy* (Ethics and Politics), as the phase of Thought points to *Metaphysics*. Here the last only, as having a more fundamentally theoretical character, comes directly into view.

While Psychology, with its peculiar method, first shows us the outlet—or the inlet—to reality, it is *Metaphysics* that gives the direct theory of reality. From metaphysical analysis of knowledge in general there results the doctrine known as *Idealism*. All the "objects" of the positive sciences are resolved into appearances, related in forms which, like the elements related, are such only for Mind. So far as the material elements of knowledge are concerned, idealistic doctrine seems to owe most to English *Experiential Philosophy*. For the theory of relations or forms, it owes most to Kant and the "Intellectualists". The truth in both lines of thought may be summed up in the position that, as the relations between the elements of experience are just as real, so also they are just as ideal, as the elements.

That *Metaphysics* must include *Ontology* as well as *Theory of Knowledge* is again becoming clear. Evidence of this is to be found in the frankly speculative attitude taken up by Mr. Bradley as the representative of one view, and by Mr. McTaggart as the representative of the other, on the question of the *Immortality of the Soul*, relegated by Kant with all other ontological questions to the *Practical Reason*. As an aid towards reclaiming the province of *Ontology* for *Metaphysics*, it may be worth while to attempt to contribute to the proof—independently, as I think, of what is sectional in any philosophic school—that the question, whether the individual soul is permanent, is accessible from the speculative side.

Acceptance merely of *Idealism* and of the formal *Laws of Thought* would not, it seems to me, give us sufficient grounds for approaching it. We need some real proposition about mind. Now if all that is is ultimately mental, and if at the same time no permanence beyond the moment can be asserted of that which is, then the hypothetical position in which we should have been if furnished with formal truths, but confronted with a material chaos, becomes actual. There is no reason, however, to acquiesce in this result. As against

it, we can explicitly state an axiom or postulate which certainly is not devoid of meaning: namely, that there is a whole of Mind and that that whole is perdurable. This seems, both in itself and from scientific analogy, the most reasonable position. It is already laid down in Plato's *Phædo*, though in a form which, through its close union with direct examination of the arguments for the permanence of the individual soul, has given critics trouble to disentangle. Thus it is, historically, nearly as old as the axiom of the physical perdurability of Matter. The Conservation of Energy, with its apparently intermediate position between physics and metaphysics, was naturally much later to receive satisfactory statement. Appearing for long in the guise of propositions about the ambiguous entity called "force," with its suggestion at once of inherence in matter and of subjective activity, it had to be defined as an altogether phenomenal truth, and thrown over to the objective side, before scientific clearness could be attained. Given the perdurability of Mind, as distinguished at once from the merely formal axiom of Identity, that A is A, and from the axioms, having reference to the object-world, that Matter and Energy persist in time, we can now state intelligibly the further questions: Are individual minds or souls alternately segregated from the whole of Mind and re-absorbed into it; there being thus emergence and cessation of ever new intrinsic differences? Or do they represent permanent distinctions, through changes of phenomenal manifestation, within a total intellectual system? To state the questions is not of course to answer them; but, once the general axiom of perdurability is admitted, they become accessible to the laws of thought. The criterion seems to be, Which supposition is most thinkable in accordance with the nature of mind?

To return now to a topic just raised under the head of Psychology. The amended classification of the sciences here proposed seems to exclude Practical and Æsthetic Philosophy. Yet these too have a scientific or speculative aspect, as on the other hand Metaphysics and Logic, which are included, may be treated not only as speculative sciences but as disciplines regulative of thought. Again, no place has been found in the diagram for the concrete and applied sciences. The answer to these objections is that any arrangement in space must necessarily be inadequate to the true order of the sciences, both positive and philosophical; since all of them together have their existence in mind or the unextended. A diagram can only serve as an aid to mental conception; it does not directly show forth the real order.

This is partly but not fully admitted by Mr. Spencer in relation to his own scheme when he says that a true classification of the sciences ought to be figured in three dimensions, and not on a surface. For not only do his tables, as he himself notes, exclude subjective psychology, which he regards as coextensive with all the objective sciences and antithetical to them; but, more than this, the use of a model in three dimensions would not enable him to bring it in.

The present adaptation of Comte's scheme to a more metaphysical doctrine—and indeed the original scheme itself—does not seem to be necessarily in rivalry with Mr. Spencer's. When it is recognised that every diagrammatic representation must be inadequate, the two classifications may very well be taken as expressions of different points of view. For philosophical use, Comte's point of view has this advantage. It brings out clearly that the sciences, in their ideal order, form a single organism of knowledge to which each is subservient. Mr. Spencer's scheme, on its side, brings out what is also a perfectly real aspect of science; namely, its tendency to branch into divergent specialties, which arrange themselves like groups of organisms at the termination of a process of biological evolution. This, however, is a less important aspect for the philosopher. And to keep it primarily in view seems less conducive to the reception of science into the system of general culture.

When the sciences are thought of as organically related to a whole, the advantages of the circular arrangement are easy to see. For this by no means indicates a definitively closed system. On the contrary, it might have served as the least inadequate representation from the time when cosmic science or philosophy first began vaguely to differentiate into particular sciences. New sciences would thus be seen introducing themselves in accordance with that process of "intussusception" by which a biological organism grows, and which Kant regarded as the true process of development for an architectonic system of knowledge. This, and not the direct historical succession of the sciences in agreement with their logical order, has been the real course of intellectual history. The supposition that the logical order of the sciences and the historical order in which they become "positive" are one and the same, is a defect in Comte's classification as it stands; though, as may now be seen, it is unessential to the use of it. There is no difficulty indeed in fixing arbitrarily the time when a science is positively constituted, and thus making the two orders

seem to agree; but, if we view the facts impartially, the supposition that they do agree may be easily refuted. Chemistry, for example, is logically prior to Biology; yet it was later to become a coherent body of doctrine. And Psychology, even in its higher department, is an older science than Sociology; which indeed is even now little more than inchoate, so that the definite place assigned to it in the series is still somewhat in advance of the facts. The sciences have not waited for one another, as Comte appears to have imagined, but have started up at intervals as occasion brought them into view; the higher sciences contenting themselves, if the lower were not "ready," with a few approximations to their laws, or in the meantime taking leaps in the dark. And at every stage since Greek science began, there has been some kind of general philosophy in more or less friendly relation with the special sciences.

Finally, it might be contended that something like the arrangement proposed has always been implicit in educated thought. To make out a case, it would only be necessary to point to the etymology of the word "encyclopædia".

III.—THE ABSOLUTE AS UNKNOWABLE.

By A. K. ROGERS.

In the somewhat widespread revolt against the neo-Hegelian identification of reality with thought, or knowledge, there are evidently two courses which it is possible for one who sympathises in a general way with the Hegelian contention to adopt. He may attempt, on the one hand, to find some other form of experience actually open to us which is more adequate to the demands upon it than thought is, or, on the other hand, he may conclude that there is no such known form of experience within our reach, and may have recourse to a hypothetical synthesis, whose existence we are forced to postulate, but whose nature is entirely unknown. I wish in the present paper to consider certain aspects of this latter alternative in the form in which it is represented by Mr. Bradley.

Mr. Bradley's chief objections to Hegelianism are two in number. In the first place, life is more than thought, if we mean by thought what other people mean; and if we mean something different from other people, and do not define ourselves, we are talking in the air. Life is feeling and will, as well as thought, and so these also must come within the Absolute. In the second place, thought does not in itself supply an intelligible unity. It proceeds by way of relations, and this can never give us a unity which we really understand. Of course there is a certain *de facto* unity; things are somehow brought together in thought. But the mere fact that we can think of an object does not of itself make the object intelligible; and so long as, starting from a given point, we simply *find* the connexion of something else with it, as we do in relational thinking, we fall short of an answer to the real problem of philosophy, as to how this connexion exists.¹ Thought points in the direction of a unity, but never reaches it; if it did reach it, it would cease to be

¹ MIND, vol. v., p. 472.

thought. Accordingly the Absolute is, for us, unknowable. What we do know is not outside the Absolute, but it is inadequate to express its real nature. It is true that one concept may be more adequate than another, and philosophy is bound to give each its relative order of importance. But when we have reached our highest category, we are not, as Hegel thought, in the presence of reality in its own proper nature; the final synthesis still lies beyond.

Mr. Bradley is thus at one with the neo-Hegelian in representing the Absolute as a single experience within which all existence whatsoever is included;¹ he differs in holding that the self, or self-conscious thought, is not a final statement of this Absolute. The world is no longer a rounded intellectual system, such as we actually know, at least in its main outlines, with some degree of completeness, and appended to which there are a number of incomplete reproductions in the form of human lives. It is, indeed, extremely difficult to add on these latter to a world already complete in terms of scientific generalisations, and avoid the appearance of a number of selves as our ultimate, instead of a single self. If the individual is really to be put inside the Absolute, he will naturally be conceived, not as a reproduction of God's life complete intellectually without him, but as one of the constituent elements of this life, part of the stuff out of which it is made, as a sensation enters into and helps to constitute a conscious state of our own. But in this case, we may as well abandon at once the contention that, for our knowledge, the world is intelligible. By working up the material of our own lives, our sensations, desires, etc., into new and strange products in the life of God where they have their real truth, we are destroying our knowledge both of ourselves and God; we neither know the product, nor the fate of the constituent parts within that product.

Now in so far as Mr. Bradley is engaged in criticising the Hegelian theory of thought as the ultimate unity, I am in accord with him, at least in his results. But in trying to discover something higher than thought, and inclusive of it, there are two roads which it is possible to follow. We may take this "something higher" as a static something, in which the irreconcilable facts of thought, feeling, will are mixed together to give a product which is unlike any of them, and which our experience gives us no means of grasping; or we may ask whether this ultimate concept is not revealed in experience even as it exists for us. In other

¹ *Appearance and Reality*, p. 146.

words, we may consider whether these various factors may not find their explanation, not by being mixed together and changed in the operation, but by each retaining its proper character, and being given a place as one phase of a unitary process to which it is functionally related; and in this case the whole process within which these various phases appear would furnish our clue to the ultimate nature of reality, not thought, or feeling, or will, by itself, or combined with something else to form a new product. This latter is the conclusion I shall wish to suggest: the highest conception is experience as an activity, within which thought plays a particular part, to be determined more exactly by psychology; and it is therefore from experience in this aspect, as active, that we are to get our notion of reality as a whole.

Now the monistic postulate, in the first place, on which Mr. Bradley builds, I think is open to question. Because the world is a unity, it does not follow that it must be the unity of a single inclusive experience, or whole of feeling. There is a positive difficulty in the way of this which I do not think Mr. Bradley sufficiently recognises. A psychical fact is not something that, as a matter of direct experience, can be worked up into all sorts of new combinations, and still retain its nature unchanged; and accordingly the facts of experience as *we* feel them, in their apparent limitation, must either be denied altogether, even as appearance—and this is what we do practically when we say that our experience exists in reality, only in a wholly *different form*¹ or else they must be taken as only *known* in the Absolute experience, and as falling in existence outside this. I think it is possible to say something for this latter conception of knowledge,—the conception that knowledge always implies the separate factual existence of the reality known, distinct from the experience of knowing, and that it is not merely the ideal extension of a fact immediately present in feeling. And all that I wish to point out here is, that if this could be established, there would no longer be any *impossibility* that thought should know reality as it is. Thought, says Mr. Bradley,

¹ We overlook the incompatibility of the existence *both* of reality, and of an appearance differing from the reality, because we have in mind implicitly the more usual conception of a reality *distinct* from our experience, which, of course, may be in itself very different from our subjective notion of it. There is no difficulty about this, because the appearance is made a second subjective fact existing alongside the real fact. But when we deny this separation, and make appearance and reality the very same bit of existence, I confess my entire inability to understand how any appearance distinct from the *real* appearance, *i.e.*, the reality, still remains.

always involves a separation of the what and the that. We get reality in feeling, but it is never the whole of reality; there are always broken edges from which lines of connexion lead us continually beyond. Thought is the endeavour to complete this partial reality given to us in feeling. It completes it, however, only by the application of ideas, and these are always meaning divorced from existence. The very essence of thought is thus its ideal character. Accordingly, while it can never be satisfied until idea and existence, the what and the that, are recombined, it also is impossible that it should reach its goal, since if it did so it would cease thereby to be thought, and become something quite different.¹ But this, it seems to me, is essentially the old demand that thought, in order to know reality, should actually be that reality. If the reality known must come bodily within the experience of knowing, then of course so long as we are thinking we cannot escape from mere thought. But if we can know, not simply that something exists, but something *as* it exists, beyond our act of knowing it, there is no reason why this might not be an experience whose nature was the nature of ultimate existence. It simply is a question now as to whether we actually have a form of experience open to us which is capable of standing the tests. Let us suppose that there is such a form of experience in our own lives, in which the objections to the relational aspect of thought are overcome; and that we can afterwards think of, or know, this. The *thinking* does not cease to be relational, of course, but the reality thought of does; and accordingly we cannot bring up the process by which we think it to prove that reality itself is still relational. Now the possibility of this rests, as I have said, on the supposition that the reality of which the idea is asserted is not, as Mr. Bradley would have it, an unknown synthesis, which is revealed to us by the actual presence of one section of it in our momentary feeling,² but rather a fact into which this feeling is not, in most cases, intended to enter at all. There is such a momentary feeling, and it reveals to us reality; it forms the medium, that is, through which our knowledge of reality is attained: but it is a medium which we entirely ignore, so far as the meaning, or reference, of the judgment is concerned. When I start to judge about an apple, my sensation is, indeed, involved, but I do not intend to say anything whatever *about* my sensation, or about reality as including

¹ *Appearance and Reality*, pp. 163 ff.

² *Ibid.*, p. 253 et al.

my sensation. Suppose, then, we are supplied with the notion of a reality which exists in a non-discursive form, and some knowledge of which in detail we have already acquired. We know that this detail is not exhausted, but this does not destroy the value of the knowledge we have; the object we know is red, and it is none the less red because it is round, and smooth, and has countless other characteristics which are still undiscovered. Apart, then, from any further judgment we may pass about this, we are able to know, or mean it—mean it as something which exists in its own truth, distinct from the perceptual experience by which we see it, or the possible judgments we might pass about it if we began to analyse. If, now, we go on to learn something new about the object, this, in *our process of discovery*, appears as a new relation which has to be added to the reality already there; *actually* we recognise that this process takes place only in our experience, and that the whole fact was already in existence in its non-discursive form before the judgment was made. If, however, this extraneousness of the object judged about to the elements of our experience is not heeded, we can never reach anything in knowledge which is not infected with the relational form. This is what I understand Mr. Bradley to maintain. There is a reality, and this reality shows itself in our experience—in feeling, sensation, perception. Sensation does not, that is, come as a duplicate of the reality known, but it is an actual element of the reality itself, and as such enters into the judgment. Judgment says that this reality, of which a section reveals itself in feeling, is extended beyond the mere feeling by the reference of an idea. Accordingly, the subject “this apple”—in the judgment “this apple is red”—does not represent a fairly adequate outline which is to be filled in by subsequent judgments, and which, by reason of its distinction from our knowledge of it, can be recognised as containing, in reality, a great deal of which we do not know; it is rather a component part of reality, which exists as the “burning focus” of our present sensational experience, and whose boundaries are to be gradually extended till it becomes we know not what in an ever-growing synthesis. The real subject is, therefore, the whole of reality, since the idea cannot be predicated of the nominal subject, which, by reason of its complete identity with our present experience and knowledge, is itself merely, and not itself completed by the idea.¹ In

¹From the other standpoint the nominal subject is not identical with my experience, but distinct from it, and consciously recognised as going

every possible judgment the nominal subject thus points beyond itself; thought would no longer be thought if it ceased to be the reference of an ideal content, divorced from fact, and extending beyond the given.¹ Since, then, the ultimate subject of the judgment comes into our experience only under the form of feeling extended by ideal relations, and since these relations are *only* ideal, and we have no way of telling how they are reconciled with the real in the ultimate synthesis which we never reach, our last word must be that the Absolute is, not only in detail, but in every sense, unknowable.

I shall not attempt to argue here at length against this theory—the theory that judgment is the reference of an idea to a reality which is all of a piece with the real fact given to us directly in feeling. I shall be content simply to oppose to it the conception which seems to me more true. I should deny, once more, both that it is the feeling which is extended, and that it is extended by an idea. The sensation, or perception, has, so far as the purport of the judgment is concerned, nothing to do with the reality to which the idea is applied; this is rather the fact for which the perception stands as a representation, and from which it is as an existence entirely distinct. It is, again, not the idea as such which is applied to reality. The idea is simply our tool which we use to discover the attribute we are after; this attribute itself, however, is perfectly concrete and individual, and we recognise it as such. I am looking, we will say, for a piece of wrapping paper, and I guide my search by means of the concept brown. When however I say, “This paper is brown,” I do not suppose that the paper has somehow been brought into connexion with an abstract colour, but only that here in the universe is a particular real piece of paper which answers in colour to my idea of brown, and which I can use, but whose colour is itself, of course, as definite a brown as could possibly exist. It may indeed be that I cannot tell exactly what this particular colour is, and I may not be, usually I am not, especially interested in its particularity; but, nevertheless, in any judgment which intends to refer to a concrete

beyond it in content; and so there is no contradiction in predicating the new attribute of it.

¹I should say also that thought can never cease to move by way of relation, but this says nothing about the reality which is known by thought. If thought is not only a factor in reality, but knows other reality besides itself, then a non-relational fact may conceivably be known by a thought which still keeps the relational form, and an absolute truth by a thought which itself is partial.

existence, I am perfectly aware that the quality which I am referring to reality is a definite quality, and that it must be so for the judgment to have meaning.

Now I believe that this is our natural way of looking at the matter, and that, consequently, it has so much the advantage. It certainly does not fall in readily with our ordinary conceptions to suppose that the external world, so far as known, is nothing but a mosaic of bits of human experience, and that it probably has no existence at all apart from such finite centres of feeling.¹ Commonly it is believed most emphatically to have an existence independent of human sensibility. The only thing that would make a different theory acceptable would be the impossibility of justifying the common-sense view in any satisfactory way. I do not see why the conception of an ultimate consciousness distinct from ours, within which the outer world has its reality, is not a sufficiently respectable theory to deserve at least consideration.² It only remains, then, to ask whether we actually have a knowledge of any type of experience which overcomes the difficulties that Mr. Bradley finds in thought. And my thesis is that we have, in any conscious act of a non-discursive kind, a sufficient indication of the direction in which we are to look for this. Let us take a case where we are doing something in full consciousness of its meaning, but where the action is sufficiently habitual to do away with the need of our constantly having to form new judgments, or to think. In such an experience we have the elements of our activity present in their relations, without these relations being mere opaque facts; we do not start from A and *find* B, of whose connexion no further account is to be given, but B is already implicitly present in the end of action, by reference to which each partial element has its place determined. In the experience of consciously performing an act in which the relations of the various steps that constitute the act, the means that make it possible, are actively realised, we have, indeed, the only way in which Mr. Bradley's demand is conceivably to

¹ *Ibid.*, p. 273.

² Mr. Bradley mentions this in a foot-note (*Appearance and Reality*, p. 282) only to reject it with some contempt as hardly needing refutation. Of course if we follow him in his static conception of reality, there is some justification for this; the mere reduplication of a fact does not explain much. If, however, every fact of experience has a *functional* value also—and that for common sense is its obvious value—then the independent existence of the world for God's consciousness need no more be meaningless than my knowledge is useless because my neighbour knows the same thing. I and my neighbour have different parts to play in the world.

be met. That we should understand a fact, in distinction from simply having to admit it *as* a fact, has no assignable meaning except by reference to end or purpose. Of course, in any experience of ours, we come short of a self-existent and self-intelligible reality. Our experience is only a small part of the whole world, and so it can neither stand alone when we come to examine it, nor can it avoid the necessity of constantly having to stop and think, in order to adjust itself to new circumstances which lie outside of and condition it. An absolute reality would, on the contrary, contain all conditions within itself, and contain them consciously; every so-called past event would, in its relations, be eternally present; a step once taken would not drop from memory, as it does with us, and only persist as a *de facto* condition of present consciousness; it would persist consciously, as an influence which had its share in directing the course of future accomplishment. But while we have to recognise that any actual experience of ours falls short of representing adequately what the life of God must be, this does not prevent its exhibiting essentially the same general features; and if we thus get the type of reality in our own lives, it is comparatively an easy task to apply it to the outer world. What an object really means for us is its relation to our own activities. A chair means the act of sitting, paper the act of writing, a gun the act of shooting. Apart from such a unity of end, the object is but a congeries of relations, which we can think only discursively, by passing from one relation to another. But when the object is actually being used, those elements in it which have a bearing upon the end in view may come into an altogether more intimate sort of connexion. Here the whole act, and so the object as it enters into the act, may be bound together by the abiding presence in consciousness of the end towards which the action is directed—an end which is not something separate from the action, but which is itself realised in the various related steps which make up the action's progress. Relations are still there, in the sense that we have a complex whole whose parts can only be *thought* as related; but they are not felt *as* mere relations, but as phases of the inner unity of the act. Of course, however, metaphysically speaking, the act is not literally the object; as a means to the accomplishment of the act it can stand to us for the service it performs, but in itself it is a member of an independent and permanent world. This world never enters bodily into any experience of ours, and so we get at it in the first place only as a fact which we perceive or think about; and this knowledge of

it on our part is, like all intellectual acts, discursive and relational. To make the real object merely relational, however, is to lose sight of the fact that this relational form of thinking, even in our own experience, is not ultimate, but only a means to an end, which we should have no need of if we did not start with a knowledge that was partial and incomplete. Accordingly, while we can never experience objects directly, but must always approach them indirectly by the way of judgment, we can believe that there is a direct experience in which they exist, and in which the discursive form of thinking entirely disappears, as it tends to disappear in the activities to which our own thought leads up. Of course in this ultimate experience the object does not play the same part that it does in ours; the chair is not God's act of sitting down. We are constantly making this distinction between the objective purpose of a thing, and its subjective, teleological use with reference to our own lives. And in detail we can never tell just how objects enter into God's activity of consciousness. The general nature and meaning of his life we may, without egotism, suppose that we are getting gradually to know in the higher, or social, content of human life, but this does not tell us how any particular thing is related to this purpose. We can only discover the mechanical laws of this framework of the eternal consciousness, as represented in the relation of objects to one another, not to the meaning which they subserve. But if we suppose such an ever-flowing stream of conscious purpose, we have a *principle* of explanation for external things; they are the elements of this conscious life, as in the poet's dream the various images form the stuff of his inspired vision—elements which we cannot relate in detail to the whole, but which, nevertheless, we can believe are so connected, and thus are lifted above the merely relational form of existence which they present to us when we think them. Nor, on this theory, do we need to put outside the real existence of the object even its relation to human use; it is this, too, though it is vastly more than this. We need not suppose that cork trees were made for the sole and express convenience of the bottlers; this is on the face of it absurd. And yet, in point of fact, corks are made from the cork tree, and they fill a certain place in life, and so they cannot be wholly foreign to a reality which covers the entire sphere of existence. In the displacement of the theological by the scientific spirit, we have passed to an entirely exaggerated disparagement of the importance of the human element in the universe. If corks are made, we must suppose that

even cork-making enters into the meaning of the cork tree as an objective¹ fact; it is only when we promote this to the place of first importance that we run the risk of being absurd.

With this explanation, I do not think that Mr. Bradley's strictures as regards the self are any longer fatal. It is quite true that I can never in a single pulse of thought exhaust all the contents of my own life; I cannot exhaust all that is immediately present in the background of feeling, even, to say nothing of my past and future experience. But this is to make self-consciousness consist simply in thinking about oneself, in the purely intellectual enumeration of a given content. Such an act of thought might perhaps cover the whole ground in the end, but it would undeniably require time, and at no single moment would the whole be present. But if we find the principle of self-consciousness in an active process which *includes* duration, this objection is overcome. In so far as the elements of consciousness are related to an overruling end, they can be eternally present in a sense which is not possible in the case of a mere thought enumeration. As having a relation to the process as a whole, which needs to be taken account of in each successive step, they are, in their influence, still consciously present, even when in another sense they are passed and left behind; whereas they have no such continued existence if they are only thought of in the form of a list. It is true that my life, as mine, shows no such absolutely inclusive unity, but no one supposes that human experience is capable of standing without any change whatever for ultimate existence. My life is a gradual development, in which, by means of various partial and disconnected experiences, I *come to know* reality which exists before it reveals its meaning to me; and so it cannot adequately represent a life which is eternally self-conscious. But if the *principle* of self-consciousness is present even in these partial experiences, I do not see why it is not possible, on the basis of what we actually know, to conceive a whole of experience in which all elements are present in their relation to an inclusive purpose, and to do this without any self-contradictions.

Mr. Bradley's criticism of Hegelianism is, it is unnecessary to say, exceedingly acute, and I believe that up to a certain point it is conclusive. But in the conception which he would substitute for Hegel's he loses, I am persuaded,

¹ The objectivity of a thing of course includes, in any ultimate statement, its social relations.

the whole gain which Hegel has been the means of winning for philosophy. If Hegel's work is of any value, it is by reason of his finding the very core and centre of reality in the intelligible relations which are to be found, first in the physical world, and, at a higher level, in the social life of man. Reality thus becomes, not a something we know not what, out of all relation to our practical concerns, but it is thoroughly and genuinely knowable. Now to take all known realities as mere ingredients of a larger whole of experience, in which they are transformed and swallowed up, is to abandon this for what not even the doctrine of degrees of reality can prevent our having to call, again, an unknowable. It is one thing to say that some fact of my experience, my sin or suffering, which in my ignorance I call a blot upon the universe, does really have a place to fill, which we could understand if we could see the universe in its entirety; it is another to say that it does this by being transformed in a more inclusive state of consciousness. The first statement I should quite agree with; but I should insist that a conscious fact, in order to fill this place in a larger whole, far from being changed for knowledge, must be precisely itself. My suffering, as a fact of experience, is not changed by performing a service in the life of the whole; when I know the use which it serves I know more about it, but it is still just this same experience which I knew before, whose meaning is enlarged. There is a difference between a fact in the external world, and a fact of immediate experience, which Mr. Bradley ignores. A supposed fact may, it is true, be wholly altered by added knowledge, but this is possible only because the fact was not really what at first we supposed it to be, but was something quite different. This can be the case when we approach the fact indirectly, through the medium of knowledge, which may at any time be false or inadequate. But an experience *is* just what it is in experience, and nothing else. It can have new light thrown upon it, not, if we keep to the natural view, by being transformed in a larger consciousness simultaneous with it, but by entering into a continuous stream of consciousness, and so being related to a purpose. Each conscious act is itself alone; the added meaning which we afterwards discover concerns the part which it plays in the rational whole of action. In our own life, it can get its explanation by reference to the future course of our life history, though it still remains the sole and real fact at this particular point in the temporal series. Afterwards we come to interpret it differently, but this new experience does not flow together with the old; the two keep temporally quite distinct, and

both alike, in their distinction, are equally necessary steps in the whole process. And in so far as it finds its explanation in the purpose of the universe as a system of interrelated lives, it still remains itself; it has its relation to the eternal consciousness of God, not as losing itself in this, but as known to be itself and nothing else, and distinct from the wider knowledge of it which God possesses. There is, accordingly, no incompatibility between a knowledge of it which shall be adequate so far as it goes, and a wider knowledge of the conditions which make it possible, and of the purpose which explains it; the latter, far from overwhelming it, implies its existence exactly as it is experienced. And while the larger purpose may be only imperfectly recognised by us, it yet represents no new or strange form of experience, but something whose relationship to the elements which enter into it we have exemplified every moment of our lives.

IV.—ANTAGONISTIC REACTIONS.

BY W. G. SMITH.

It is customarily assumed, with the ordinary arrangement of procedure in reaction experiments, that the subject, in trying to carry out the direction to lift his finger from the key as soon as he perceives the stimulus, actually does lift the finger. No doubt in the majority of instances this is the case. But there are some individuals who, instead of lifting the finger forthwith, make a preliminary depression before the lifting is carried out. It is clear that this fact has an important bearing on several problems, in particular on the problem of the exact measurement of reaction time. This mode of reaction, which we may term the *antagonistic form*, in contrast to the *ordinary form* in which the lifting of the finger is carried out at once, is the subject of the following paper. The experiments here recorded were begun in the hope of discovering an explanation of certain irregularities in the results of some measurements of reaction time made with the Hipp chronoscope. The first series, mainly qualitative, was carried out partly in the Physiological Laboratory of Guy's Hospital, London, and partly in a private house where I was able to meet a larger number of persons willing to be tested: the second series, mainly quantitative, was undertaken in the Pathological Laboratory of the London County Asylums, Claybury, Essex. I am greatly indebted to Dr. Pembrey, Lecturer on Physiology, Guy's Hospital, and to Dr. Mott, Director of the Claybury Laboratory, for the liberal assistance they have given me in the course of the investigation, as well as to the many persons who have acted as subjects in the experiments.¹

The essential point of the experimental methods employed was the use of apparatus by which differences of pressure

¹The abstract of a communication given before the Physiological Society, 20th October, 1900, will be found in the "Proceedings of the Society," *Journal of Physiology*, vol. xxv., p. xxvi.

could be registered in graphic form. The instrument first employed was a sphygmograph used for transmitting pulse movements to a distance, the finger being rested on the button which is applied to the artery: connexion was made by rubber tubing with a Marey tambour the lever of which made a tracing on the smoked surface of a rotating drum. In some of the later experiments the sphygmograph was replaced by a piece of medium-sized rubber tubing lying on the table. The variations in the pressure of the finger are not registered so delicately when the tubing is used, but there is this decided advantage, that the antagonistic reactions, which are sometimes energetic, cannot make the extensive and troublesome tracing which is possible when the sphygmograph is employed. Time determinations were made by means of a time marker connected with an electric tuning fork giving 100 vibrations per second. The method first employed was that of allowing the time marker to begin marking hundredths simultaneously with the presentation of the stimulus. This

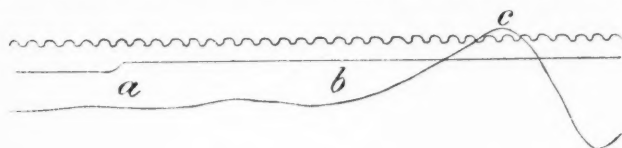


FIG. 1.—The curve is to be read from left to right; *a*, point of stimulation; *b*, rise of antagonistic curve; *c*, apex of this curve.

method however, though very convenient, requires certain corrections to be applied to the figures obtained, and in the later experiments (those summarised in Table I.) the method was adopted of having three simultaneous tracings in each reaction. One of these indicated the nature of the reagent's pressure or movement, one gave a continuous time tracing, while a third indicated the moment when the stimulus was given. A reproduction of a typical antagonistic reaction with accompanying tracings of time and stimulus is given below. It may be remarked that while in the ordinary form of reaction the lifting of the finger causes a fall in the curve which indicates the reagent's movement, in the antagonistic form the downward pressure of the finger causes a preliminary rise in the curve.

In the later experiments the reaction time was determined both graphically and by means of the Hipp chronoscope. The arrangement of the electric circuit employed was that in which the current actuates the magnets of the chronoscope

during the interval from stimulus to reaction.¹ The chronoscope was tested each day by the control-hammer. The great majority of the experiments were made with auditory stimuli—the sound of an electric bell, or some simple noise, such as the tapping of a telegraph key. In all the experiments of Table I., graphic as well as chronoscopic, the stimulus was given by the tapping of the key. A few reactions were made as a rule with an ordinary telegraph key before the graphic experiments began in order to accustom the subjects to the reaction procedure.

I am able to present results from thirty-three persons, twenty-five men, eight women. The majority of the subjects are very highly educated, a large number being employed in scientific work as teachers or investigators. Among these five give unmistakable and fairly constant evidence of the antagonistic form of reaction. In five cases this form is present, but is intermittent. In eighteen cases there is no trace on the curve of anything else than the immediate lifting of the finger, the curve where it falls being in some instances more rounded, in others more angular. In five cases the record is doubtful and difficult of interpretation. In other words, excluding these doubtful cases, we find decided evidence of antagonistic reaction in about a third of the individuals who have been tested. It does not appear to have any special relations to age, sex or temperament. In some of the cases the subject knew beforehand the object of the experiments; in others he was ignorant both before and during the experiments that the reaction movement was anything else than simple. Experiments made with two individuals showed that the phenomenon appeared both with auditory and visual stimuli.

The following tables summarise the quantitative results gained from six individuals who show the antagonistic form of reaction. I should have been glad to present a larger number of experiments, secured both by the graphic and the chronoscopic methods. But such an investigation is subject to decided limitations. The experiments were with few exceptions gained from persons who could not spare much time from their ordinary employments. On the other hand the taking and measurement of the reaction curves demands a great expenditure of time. The curve of reaction, being dependent on the subject's pressure, is subject to constant variation in the successive experiments, and account has to

¹ Cf. Kraepelin, *Ueber die Beeinflussung einfacher psychischer Vorgänge durch einige Arzneimittel*, s. 14.

be taken not merely of these variations, but of the fact that the writing point of the lever in moving up and down describes not a straight line but the arc of a circle. In measuring the reaction curves I have not felt justified as a rule in doing more than dividing (with the help of lens, etc.) the space occupied by the hundredth of a second into halves, quarters or thirds. The results have all been calculated in thousandths of a second, but as the unit of measurement in the majority of the experiments was the hundredth of a second and as I do not wish to lay any stress on the more minute differences in the measurements, I have expressed all the data in terms of hundredths of a second.

Table I. includes data from three subjects who showed considerable constancy in reacting according to the antagonistic form. One subject reacted in this mode almost invariably: the other two, who are not so regular, were tested again after an interval of a year and gave similar results on both occasions. I was able in addition to carry out determinations on these three persons by means of the chronoscope. The graphic and chronoscopic determinations were, as far as practicable, carried out at the same time, and afford an opportunity of comparing the data supplied by the two methods. In all the experiments of this table the mode of reaction was sensorial, attention being concentrated on the sound. On comparing the lengths of sensorial and muscular reaction time by means of the chronoscope, I found that they were practically the same with the subjects B and C. The subject A, on the other hand, found the muscular reaction more difficult, and as a fact it was considerably longer.¹ Hence it seemed simplest to adopt the sensorial type of reaction as the basis of these experiments.

Table I.

Subject.	<i>n</i> .	<i>chron.</i>	<i>m v.</i>	<i>n</i> .	<i>st-r.</i>	<i>m v.</i>	<i>r-ap.</i>	<i>m v.</i>
A	57	·20	·03	27	·18	·06	·05	·01
B	38	·17	·02	25	·14	·02	·04	·02
C	42	·18	·02	74	·14	·03	·04	·01

n=number of experiments: *chron.*=reaction time by chronoscope:
m v=mean variation: *st-r*=interval between stimulus and rise of curve:
r-ap=interval between rise and apex of curve.

¹ As this case is of some interest in relation to the discussion on reaction types, it may be mentioned that the average length of the muscular reactions (40 expts.) was ·26 sec., *m v* ·05 sec. It was instructive to

The vertical column headed *chron.* shows the average length of reaction time as determined by the use of the chronoscope, while the column *N.* preceding it, gives the number of experiments on which in the case of each subject the average is based. In the second section of the table are given the results gained by the graphic method, the number of experiments appearing under *N.* The column *st-r* gives the average length of the interval between the presentation of the *stimulus* and the beginning of the *rise* of the curve which indicates depression of the finger, while the column *r-ap* gives the length of the interval between the beginning of *rise* of the curve and its highest point or *apex*.¹ The column *mv* shows in each case the mean variation of the data given in the column immediately preceding. In analysing and measuring the curves it has been assumed that the apex of the antagonistic curve corresponds to the point of time at which the contact of the electric key is broken in reacting by the chronoscopic method. This assumption is perhaps not strictly correct, but if the apex be not chosen it would be difficult to find any other point on the descending curve which can be more certainly and accurately determined. In any case the error must be small. A difficulty meets us also in finding the terminating point in the ordinary form of reaction. I have in this case chosen the point where the curve just begins to show the decided fall indicating the lifting of the finger: the difficulty in determining this point is however greater than in finding the apex in the antagonistic reaction, since the line of the reaction curve in the interval before the reactive impulse manifests itself is often not level, but undulates more or less owing to variation of pressure or physiological tremor. A similar uncertainty is apt to be found in determining precisely the beginning of the rise in the antagonistic reaction. Such difficulties are inseparable from the use of the graphic method for such purposes. It may be mentioned that the latent time of the

notice during the course of the investigation the different natural attitudes of the subjects towards the reaction process: for example, of the two demonstrators in a physiological laboratory one found the sensorial reaction 'clumsy,' while the other found it 'easier' than the muscular reaction.

¹The following table gives the magnitude of the central value or median of the observations recorded in Table I.

	<i>chron.</i>	<i>st-r.</i>	<i>r-ap.</i>
A	·19	·18	·05
B	·17	·14	·03
C	·18	·13	·04

transmitting and registering apparatus was determined by a special set of experiments and that the figures given in the table are the corrected figures.

It will be observed that with two of the subjects, B and C, the chronoscopic results are very similar to those gained by adding together the data in the two columns containing the graphic results. The difference in the case of A may probably be explained to some extent by the fact that in the experiments carried out by the graphic method the drum was driven at a high speed by an electric motor: this caused a considerable amount of noise, which no doubt distracted the attention: it is to be noted also that on the different days when I was able to secure reactions the subject was suffering from a certain amount of fatigue. In each case the mean variation of the interval between stimulus and rise of curve, *st-r*, is highest absolutely, though relatively the mean variation of the antagonistic rise, *r-ap*, is the most pronounced. The percentage of instances in which the variation from the average bears the same algebraic sign for both these magnitudes, *st-r*, and *r-ap*, is for each subject somewhat over 50 per cent. (on the average 55 per cent.). This suggests that there is a tendency in these magnitudes to rise and fall concurrently, but the tendency is in any case not a decided one.

In the second table are presented the results gained from three individuals in whom the tendency to react in the antagonistic form is decidedly intermittent. The number of experiments recorded is somewhat small and there is no concurrent determination by the chronoscope. The columns have the same meaning as those in the former table, with the exception of that headed *st-f*: in this column is given the average length of the interval elapsing between *stimulus* and *fall* of the curve in those reactions which exemplify the ordinary form.¹ In this group sensorial and muscular reactions are taken together. The one subject, D, whose results are sufficiently numerous to allow of a comparison of the two types, showed no material difference in length in the two types when they were separately estimated.

¹ In the experiments of this group, in which the stimulus was the sound of an electric bell, the time registration was begun by the current which actuated the electro-magnet of the bell: the reaction times in the columns *st-f* and *st-r* are consequently longer than they should be by the latent time of movement of the bell hammer. Owing to accidental circumstances I was unable to determine the length of this latent period. Inasmuch as the problems discussed above do not involve an exact determination of the whole length of reaction time this error is of relatively little importance.

Table II.

Subject.	<i>n</i> .	<i>st-f</i> .	<i>m v</i> .	<i>n</i> .	<i>st-r</i> .	<i>m v</i> .	<i>r-ap</i> .	<i>m v</i> .
D	30	·16	·03	14	·14	·03	·04	·01
E	6	·20	·06	14	·17	·02	·04	·01
F	10	·17	·03	6	·12	·02	·05	·02

n=number of experiments : *st-f*=interval between stimulus and fall of curve : *m v*=mean variation : *st-r*=interval between stimulus and rise of curve : *r-ap*=interval between rise and apex of curve.

On the whole the values in Table II. do not differ greatly from those in Table I. The results in the column giving the ordinary form of reaction, *st-f*, suggest the interesting question, what is the relation of the reaction time in the instances in which there is apparently no antagonistic movement, to that in the instances where the antagonism is present? For an answer to this question we may take into account, in addition to the subjects D, E, F, the subjects B and C, who show the ordinary form of reaction as well as the antagonistic form. We find then that in four out of the five cases the ordinary form, *st-f*, is shorter than the total antagonistic reaction, *st-r* + *r-ap*,—while in four cases it is longer than the interval between stimulus and rise of curve, *st-r*. Taking the data of the five subjects together we find that the ordinary reaction is on the average less than the total antagonistic reaction by ·02 sec., and greater than the interval between stimulus and rise of curve by ·02 sec. Keeping in mind that the results are not sufficiently numerous for a final determination of the relations, we are still justified in concluding that, for the group of individuals tested, the ordinary reaction is not simply shorter than the total antagonistic reaction by the length of the antagonistic rise, *r-ap*. It is also clear that in a large number of instances the first muscular manifestation of the reactive impulse (as indicated by the rise of the curve in one case and by the fall in the other) takes less time to appear in the antagonistic than in the ordinary form of reaction: in other words, the true reaction time appears frequently to be shortest in the antagonistic form of reaction. It is possible that the lengthening of the ordinary form may be due to the circumstance that some reactions, which are apparently ordinary, may be in reality masked forms of antagonistic reaction: there may be an inner conflict of nervous impulses, which are not sufficiently strong to manifest themselves in the graphic tracing,

but whose total effect is a prolongation of the reaction time. But it is also possible that the greater intensity of muscular innervation which, as we shall see reason to believe later on, is probably the main cause of the antagonistic impulse, implies also a shortening in the time taken up in the innervation process.

The circumstance that there was no opportunity of carrying out a prolonged series of practice experiments may in some degree account for the fact that several of the subjects, *e.g.*, those whose results are embodied in Table I., do not show the difference in length between sensorial and muscular reactions which is emphasised by the Leipzig school. In general explanation of this fact, however, it seems most reasonable to refer to the view upheld by Baldwin and others, that there are different natural types of reacting. I am not able to say what the result ultimately would have been had the subjects tried to inhibit the antagonistic reaction. It is certain, however, that the attempt to repress the natural mode of movement would have involved a considerable distraction of attention, which at first, and probably for some time, would have resulted in lengthening the reaction time. It was not in any degree the object of the investigation to show what an individual can be trained to do, but to demonstrate certain marked natural differences in the mode of reacting.

It is clear from the results which have been presented that the reaction movement may be complicated, unknown to the reagent, by a preliminary antagonistic movement and that the time taken up in this movement is on the average probably between four and five hundredths of a second. This is an important fact which must be taken into account in attempting to secure an absolute determination of the time taken up in the different mental or cerebral operations. How far it has entered as a modifying and disturbing factor into the numerous experiments which have been made on this subject it is impossible to say. But now that the existence of this fallacy is known, it will be advisable in future to analyse the reaction curve of each subject graphically before trusting to the 'short and easy method' of the Hipp chronoscope. The matter would be comparatively simple if individuals persistently reacted in one way or the other. But as we have seen the reaction is in some cases intermittent, and the time relations of the alternating forms are by no means simple. It must be remembered also that the antagonistic reaction does not appear immediately on the application of the graphic test. In one subject there was

practically no trace of it till the fifteenth reaction was made: then we have the reaction indicated at *a*, Figure 2, which is followed by five others of the same kind almost equally distinct. In another subject it appears only once on the first day: next day it is clearer and more frequent; an example is given at *b*. In a third instance there is no appearance of it until the eleventh reaction is reached: this is reproduced under *c*. I have appended in each case, below the antagonistic reaction, an example from the same individual of the ordinary form: certain minor differences in the curves are due to the fact they were not taken with the same apparatus.

The qualitative experiments were arranged with the view of ascertaining not merely the presence or absence of antagonistic reaction, but also the part played by various factors in its production. The first point to which attention was directed was the possibility that the appearance of the

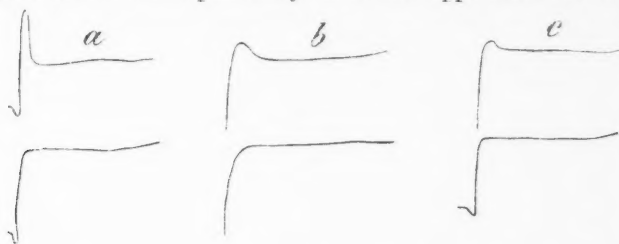


FIG. 2.—These curves are to be read from right to left. In each case an example of the antagonistic form of reaction is given above, of the ordinary form below.

phenomenon might be modified by the direction of the attention towards the sensorial or muscular processes. From the many experiments bearing on this point it is clear that this difference in the adjustment of attention has no marked influence on the mode of reaction. One subject was inclined to believe that the antagonism was more frequent in the muscular reaction, but the curves do not show any decided difference. The effect of fatigue has been observed in two cases. In one there appeared to be no change: on the other, towards the end of a prolonged series of experiments, the ordinary reactions tended to become more numerous. This return to the ordinary form may perhaps be interpreted as meaning that the reaction movement was made in a less energetic way.

Since in one or two instances where an ordinary reaction appeared during a series of antagonistic reactions the subject

explained that at the time his attention had been distracted, it was arranged to make a series of experiments in which distraction was caused by reading an interesting book. These tests, carried out with one of the subjects whose antagonistic reaction was extremely constant, did not show any resultant appreciable effect on the form of reaction.

A large number of observations were made with the object of determining whether the reaction had relation to any special set of muscles. Varying position of hand and arm and the use of first or second finger appeared to make no noticeable difference. Three persons, whose customary reaction was antagonistic, found that they could depress the finger without any preliminary lifting. It is, however, to be noted that one of these subjects was less constant in his form of reaction, while another showed in the curve of depression the rounded form characteristic of very slow muscular response. After attempting to secure the relatively isolated action of the finger muscles without the use of special apparatus, a series of determinations was made on two subjects, very constant in reacting antagonistically, in which the forefinger was firmly clamped between the second and third joints, the tip of the finger resting as before on the button of the sphygmograph. The mode of reaction was by no means so constant as before, but there was evidence of persistence of the antagonistic form, the evidence being less decisive in one subject. Similar experiments were made with the same subjects in which the back of the finger just behind the nail was laid on the button of the sphygmograph; the reaction movement in this group was carried out by flexor muscles, not as in the former experiments by extensor muscles. The result was similar to that in the previous group of experiments: the antagonistic reaction was present, but in a less clear and decisive form. It must however be noted that the effort to innervate the finger muscles alone, the upper part of the finger being held firmly, is an exceedingly difficult and unsatisfactory performance. It was only occasionally, according to the record of the reagent's observations, that it was possible to make a satisfactorily rapid and isolated contraction of the muscles in question: the effort usually brought with it at the same time involuntary and sometimes energetic contractions of the muscles of the arm, neck and trunk, or of all these together. In these circumstances I do not feel inclined to lay any great stress on the experimental results.

A much more satisfactory set of observations was obtained in determining the behaviour of the arm muscles in reaction

movements. The forearm was bandaged firmly along its whole length to a bar of wood, and a string, arranged so as to loop over the button of the sphygmograph, was attached to the forefinger, or in later experiments to the end of the bar of wood. The position of the sphygmograph was changed in successive experiments in order to admit of testing movements of the arm up and down, to the right and left. The two individuals referred to above were again subjects: the right arm was employed as in all the other experiments. In every direction of movement, up or down, to the right or left, there were observed preliminary movements in the direction opposite to that intended by the reagent. The movements are not equally constant in both cases, but the curves of both persons show the phenomenon unmistakably. It may be concluded from these observations that the antagonistic movement is not limited to any special set of muscles and that it occurs whether the intended movement is performed by flexor or extensor muscles, the degree of distinctness and frequency depending on the special groups of muscles employed.

In seeking for an explanation of these phenomena we may look at the problem first from the point of view of physiology. In any rapid movement there is an effort not merely to secure speed, but also to give the movement a certain degree of force or energy. Now it is a well-known fact in the physiology of muscle that preliminary tension of a muscle increases the out-put of energy: within certain limits the greater the load, the more work is done. We may assume then that wherever the tension of a group of muscles, *e.g.* the extensors, is momentarily heightened by the contraction of the flexors, the subsequent contraction of the extensors will be more forcible and powerful. Applying these ideas to the phenomena of antagonistic reaction, we could easily understand that in this form of reaction the final movements would tend to be more forcible, while their appearance, as determined by the ordinary reaction method, would be delayed: the involuntary adjustment of innervation would be directed to the attainment of force rather than of speed. The fact may be here referred to that in some cases in attempting to perform a rapid and at the same time vigorous action, such as striking from the shoulder, even when the movement starts from a position of considerable flexion, there is a tendency involuntarily to produce a momentary increase of flexion before the extension movement is carried out. It has been shown by Sherrington¹ that when one of a pair of antagonistic muscles

¹ *Proc. Royal Society*, lii. *et seq.*

is innervated, there is a simultaneous inhibition of the muscle opposed to it. This law is not in conflict with the fact of prior innervation of the antagonistic muscle: in fact the two sequent processes of innervation and inhibition work together to the same result and tend to secure the more effective performance of the final movement.

Looking at the problem from the psychophysical point of view we have to note that, in the interval immediately preceding the reaction, the idea dominant in consciousness is that of holding the finger pressed down on the key. Now it is quite conceivable that the excitation caused by the stimulus, acting as a sort of shock (to use the expression applied to sensorial reaction by one of the subjects), should in certain cases first of all and most easily cause a more decided realisation of the motor idea already holding possession of consciousness, in other words, an increase in the innervation of the muscles which are already in a state of tension. We have an instance of this sort of action in the behaviour of certain patients suffering from general paralysis, of the insane whom I have had the opportunity of observing. They were directed to react in the ordinary way to the tap of a telegraph key and they carried out the direction. But when the chronoscope, standing close by, was started there was observed a sudden increase in the tension of the arm which was to take part in the reaction movement. It is, further, possible that the phenomena of antagonism have certain relations, in some individuals, to the alternation of impulses of which we are conscious in deliberation, hesitation and doubt.

The physiological and psychophysical views of the phenomenon, though divergent, are not in opposition. The first is in general preferable, for it rests upon precise experimental data, but it is probable that the latter view gives a truer account of the process in certain instances: it is also possible that the different tendencies may sometimes support each other. More detailed experimental investigation will doubtless contribute to the understanding of the factors involved. There can be little doubt that further study of the phenomena of reaction by similar methods will lead to interesting results. Variations in the length of reaction time are usually dealt with merely in their bearing on the trustworthiness of the average value. But if we were better acquainted experimentally with the many elements which enter as determining factors into these variations, we might be able to make a much more extensive use than we can do at present of the reaction process as an index of the activities of the central nervous system.

V.—ON THE DISTINCTION OF INNER AND OUTER EXPERIENCE.

BY GEORGE GALLOWAY.

WE may regard this problem from two points of view. In the first place we may treat the question simply from the historical standpoint, and try to show the causes which led to the gradual separation of experience into two different spheres, an outward and an inward. From the nature of the case such an investigation must be largely psychological. It cannot in itself be taken as determining the ultimate validity of the distinction, though it may furnish facts which an epistemological theory must take into consideration. But, in the second place, we can try to determine the real meaning and value of the distinction in the ultimate nature of things; and this of course will be a problem for metaphysical discussion. A larger inquiry of this kind may furnish the conclusion that experience is fundamentally one, and that outer and inner are only different phases or stages in its development. Or it may lead us to conclude that the contrast we make and act upon in our ordinary conduct is based upon a real difference which is more than one of degree. It will be convenient for us to consider first of all the genesis of the distinction.

For ordinary thought nothing seems more obvious than the difference between outer and inner experience. And one naturally assumes that a distinction, which he draws himself so readily, was always drawn with the same facility. But undoubtedly this cannot have been the case. If we distinguish two grades of experience, the former perceptual and therefore concrete and individual, the latter conceptual or generalised, it will only be at the second stage that the distinction is consciously made. The separation into two spheres, inner and outer, and the apt reference of experience to one or other of them, imply some development of the power of generalisation. To a merely perceptual con-

sciousness the act of reflexion which marks off the percept from the perceiving mind would not be possible. Nevertheless we must guard against a rigid division of perceptual from conceptual experience. For the process of development is continuous, and in perception itself unconscious inference is present. Even in the higher animal self-conservation implies a rudimentary capacity to draw conclusions. Only, however, on the level of conscious generalisation can individual experience receive a name and acquire a meaning. In his Lectures on *Naturalism and Agnosticism* Prof. Ward has justly insisted that conceptual thought is developed by intersubjective intercourse. In other words it involves language, and therefore a social system. It is not as an isolated individual but as a member of society that man has universalised his experience. On the other hand, we must bear in mind that intersubjective intercourse could not create an intellectual realm apart, but has only developed to clear consciousness elements implicitly present at the perceptual stage.

If, then, the distinction of outer and inner experience only becomes possible on the level of conceptual thought, how and why was it made and elaborated then? Great certainty on such a matter can hardly be expected. I shall first examine an ingenious theory on this point which is originally due to R. Avenarius. It is termed the fallacy of introjection. The theory is reproduced by Prof. Ward in his Lectures on *Naturalism and Agnosticism*, and for convenience I shall take his statements in explanation. Substantially the process called introjection rests on an error which is due to common thought and language. Its essence "consists in applying to the experiences of my fellow-creatures conceptions which have no counterpart in my own. . . . Of another common thought and language lead me to assume not merely that his experience is distinct from mine, but that it is *in* him in the form of sensations, perceptions, and other 'internal states'. . . . Thus while my environment is an external world for me, his experience is for me an internal world in him."¹ Consequently as we apply this conception to the experience of others, and they do the same for us, we are also led to apply it to ourselves, and so to construe our own experience in the light "of a false but highly plausible analogy".

The foregoing solution of the problem is plausible, but, as it stands, somewhat artificial and not quite convincing.

¹ *Naturalism and Agnosticism*, vol. ii., p. 172.

Beyond doubt intersubjective intercourse has been necessary to develop a distinction which implies conceptual thinking. But the part in introjection assigned to an "involuntary error" due to common thought and language is hardly intelligible and appears to be superfluous. Evidently some psychical growth is presupposed in the act of interpretation by which common thought places the thoughts and perceptions of another *within* him. The process of *inreading* would be meaningless unless each individual had already some key to it in his own experience.¹ Generalised experience implies a society, but it is not credible that men in society elaborated a distinction which did not somehow rest upon and appeal to the life-history of individuals.

What facts then led to the historical genesis of this distinction? One of the earliest would be the distinction of the body from surrounding objects. The beginnings of this separation take us back to the animal world. An animal would have no chance of survival in the struggle for existence if it did not note the difference between visual changes due to movement on its own part and those due to movement on the part of the object.² But man might have consciously differentiated his body from surrounding objects without recognising a soul or life within the body. The phenomena of sleep and dreams must have decisively contributed to this further result. In the lower culture dreams are regarded as real occurrences, and are attributed to a second or shadowy self within, which can leave the body and return to it. In giving clearness to, and in marking off, the experiences of this inner self no doubt the utterances and testimony of other individuals were highly important. Then the voice and the breath coming from within seemed a witness of the reality of the soul in the eyes of primitive men.³ When conceptual thinking had given some fixity and generality to the notion of a soul, we may conjecture that the phenomena of error and illusion—facts which must have been soon noted because practically so important—were treated in the same way as dreams and attributed to the inner self which of course was still conceived in a material way. A conscious contrast between

¹ A similar objection is urged against Avenarius's view of introjection by W. Jerusalem, in his suggestive book, *Die Urtheilsfunktion*, vide p. 245.

² Stout, *Manual of Psychology*, p. 323.

³ There seem to be reminiscences of ancient beliefs about respiration in the Ionic school. Anaximenes, for example, supposes the soul to be composed of air, ἡ ψυχὴ φησὶν, ἡ ἡμετέρα ἀνρ οὐσα συγκραεὶ ἡμᾶς (Ritter and Preller, 20). Heraclitus speaks of it as a bright exhalation, ἀναθυμίασις.

objects given in presentation and objects reproduced in memory and imagination cannot be primitive, but when the differentiation was made the latter processes would naturally fall to be regarded as inward. We need only further mention the activity of the will, with the corresponding sense of a resisting environment, which would give force and vividness to the incipient distinction between an outward world and an inward self.

If our view be right, then, the distinction of outer and inner has its rude beginning in the animistic mode of thought: and animism, as Dr. Tylor and others have shown, is universal in the lower culture. Survivals among civilised races prove the presence among them long before of animistic beliefs. Avenarius supposes that the widespread phenomena of animism is an extension to nature of the principle of introjection as applied to human beings. This is true if introjection means nothing more than the attribution of a soul. But the act of interpretation by which we place the thoughts and perceptions of another man within him as "internal states" is a somewhat developed one. It is not natural to make the cruder phenomena of animism depend on introjection thus conceived. We do better justice to the facts when we conclude that the distinction of outer and inner has its germ in the experience of individuals. The distinction was then developed by intersubjective intercourse, and the notion of an internal soul came to be applied not only to human beings but also to natural objects. The idea of "internal experience" is later, and grows out of the theory of a soul or finer second self within the body.

We find then this theory of a fallacy of primitive thought does not solve our problem. But though we trace the distinction to a basis in the actual experience of individuals, the larger question of its final validity still remains. For it is always possible that thought may misconstrue experience. And, so far as we have gone, the division of our world into two spheres may or may not have a justification in the real nature of things. To this further aspect of the problem we now turn.

The expression outer and inner when applied to experience is to some extent metaphorical. For experience is not a process carried on within the head, nor are objects which appear external to us and to one another on that account outside consciousness. The distinction of inner and outer is one which falls within experience, and what we call an outward object and an inward idea are alike states of consciousness. That externality in space is not externality to mind

was clearly brought out by Kant. It lay beyond Kant's mental horizon to discuss the distinction of outer and inner from the point of view of the historical growth of experience. But he accepts the distinction as justifiable and incorporates it in his theory of knowledge. That which is in space and time belongs to outer sense, that which is in time alone belongs to inner sense. And there is a necessary connexion between the two spheres, for that which is determined in space is determined from the side of the subject in terms of inner sense. By attending to the mental process by which all objects become possible the inward side of experience would be differentiated from the outer. But Kant afterwards saw that in putting this interpretation on the common distinction he involved himself in difficulties which affected the consistency of his theoretical philosophy. For the inner life was perpetually changing, and we could not, as he thought, apply to it the category of substance as the permanent in time. Nor could that product of Kantian abstraction, the spectral pure ego which was without content, serve as a permanent unity to which inner changes were referred.

Accordingly in the second edition of the *Critique*, in the "Remark on the Principles of Judgment," we find Kant modifying his earlier view, and asserting that outer sense is presupposed in the conscious determination of ourselves in time. "It is by means of external perception that we make intelligible to ourselves the various successive changes in which we ourselves exist. . . . No change can possibly be an object of experience apart from the consciousness of something that is permanent, and in inner sense nothing that is permanent can be found." On this view it would be as logically subsequent to and contrasted with the determination of objects in space that the consciousness of inner experience is possible.¹ It is of course evident that Kant in

¹ Dr. Caird thinks that the modifications in statement made by Kant in dealing with this point in the second edition of his *Critique* indicate a movement of his mind, of which perhaps he was not himself fully conscious, towards a larger and more consistent idealism (*Phil. of Kant*, i., 417, 614). I am not aware how far he is supported in this view by competent Kantian scholars. But I venture to think that Kant simply desired to give a statement of his critical idealism less open to objection and more carefully guarded than that which he had given in the first edition and in the *Prolegomena*. While he shows in the second edition that inner sense depends on outer sense, he also repeats that a phenomenon (*Erscheinung*) must be a phenomenon of Something (ed. Kehrbach, p. 23). And though he admits that this reference of perception to a reality beyond it might not be necessary for intellectual perception (*op. cit.* p. 32), yet it is no part of his theory that human intelligence is implicitly a consciousness which is capable of exercising an *intellectuelle Anschauung*.

his treatment of this distinction is greatly influenced by the general theory of experience which he found it necessary to postulate. He could not admit that the self was real in the sense of maintaining its identity amid its changing activities. Hence the fact of external perception was judged necessary to give the contrast of permanence over against inner changes. Yet in Kant's theory it is impossible to understand how a pure form of perception like space, when somehow superinduced on an affection of sense which is mysteriously given, could, even with the necessary help of the schematised categories, produce those *localised* objects in space which fill the field of outer experience. It is conceivable that spatial and temporal relations may have been evolved out of sense-affection as a form which is implicitly contained in it; but it is not intelligible how pure forms of intuition could be read into an alien matter. We refrain, however, from entering on a detailed criticism of Kant, for it will generally be admitted that his theory of knowledge is too unsystematic, too little penetrated by the notion of development, to be accepted as it stands. The motto *simplex sigillum veri* may not always be true, but the cumbersome and ill-adjusted machinery of the *Critique* of itself provokes doubt and unbelief. Let us rather see how Kant's view on this subject is amended and developed by Dr. Caird in his well-known treatise on the *Philosophy of Kant*.¹

Inner and outer experience we are there told are only different stages in the development of consciousness, which in another aspect is the development of the object. From the simplest determinations of the object in space and time we advance organically through the categories, or forms of judgment, to the world as completely determined by reason or self-consciousness, which if logically posterior is the real presupposition of the whole movement. The later and more highly articulated stage of this development is, properly speaking, inner experience, and it can only be distinguished from the consciousness of the world in the sense that it is that consciousness in a more completely developed form. But as each fact of experience involves a reference to the self, so every outer experience will have its inner side. On the other hand, there is no inner experience which is not also outer, but we call it inner because the inner side is specially reflected on,—in other words we definitely recognise it as belonging to the self.

That there are elements of truth in this statement we do

¹ *Phil. of Kant*, vol. i., 614 ff.

not seek to deny. Inner experience could not consistently develop except in relation to and in distinction from outer experience. And what we call an outer experience must also have an inner side. Nor can there be doubt that in the historical growth of experience its two aspects have advanced *pari passu*. None the less it is difficult to regard inner experience as merely outer experience at a more concrete and highly articulated stage of growth. If we set aside for the moment the question whether the distinction between them can be minimised in this fashion, we might still argue that, from the point of view of psychological development, it is inner experience which is primary and outer which is derivative. A developed self-consciousness is mediated by the consciousness of objects, but in the last resort we must postulate a direct and conscious activity of the self as the ground and beginning of all progress in experience. There is a sense in which we must be immediately conscious of the operations of our own minds, and it is only as the result of inferential thought that we mark off a section of experience as outer. On this ground we should be disposed to modify Dr. Caird's statement, and to treat inner experience as fundamentally the more simple and elementary. From this standpoint development begins from an active self in relation to an environment, which gradually distinguishes that environment from itself, and by the aid of conceptual thought defines a portion of its whole experience as external.

But the further question remains whether a distinction of degree between outer and inner experience covers all the facts. Dr. Caird does not find anything in the object as determined in space which is not taken up into self-consciousness. The advance from outer to inner experience is just a process in which thought goes on to a more and more complete determination of things, till "it finds its own unity in the object".¹ It is hard to see how on this view the individuality and uniqueness which we discover in experience are explained at all. And in reference to the matter on hand this theory does not afford room for certain obvious facts. Inner and outer experience refuse to melt into one another in the way suggested. Mere reflexion on the inner side of an outer experience does not lead us to regard it as inner. A man, for instance, examining a statue critically in order to give his opinion of it reflects on the impressions he receives and recognises them as his own. Yet he would not call his experience an inward one. Even more decisively

¹ *Phil. of Kant*, vol. i., p. 470.

would the same individual refuse to term outward his experience when, leaning back on his chair and closing his eyes, he thought out carefully the merits of several possible lines of action in order to select the best. And between the one experience and the other there would appear to him to be a qualitative difference. If every inner experience is outer as well, why do we habitually distinguish what we call subjective mental processes from the perception of outward objects, and contrast the one with the other? No doubt each outer experience has an inward side, and in virtue of this we sometimes wrongly interpret an inner state to signify facts in the external world. But we never mistake our perception of objects in space for a purely inward mental process. We find therefore a difficulty in accepting the view that the contrast of inner and outer experience rests entirely on a difference of degree in the development of consciousness. From this standpoint distinctions which are universally noted and acted upon are not adequately explained.

Against this it may be urged that inner and outer experience cannot be two diverse kinds of experience, for both are experiences of the one subject and are distinctions within the one consciousness. We have already admitted this. For the purely perceptual consciousness experience would be one, and the generalised distinction of outward and inward we know is made possible by conceptual thinking. But on the level of mediate thought, or rational inference, a new question presses itself upon us. We ask, Does the ultimate *raison d'être* of the distinction lie in the conscious selves who make it? Or is the inference reasonable that the experience which we name external gets its character from the implication of realities, which are not those of self-conscious subjects? In other words, Is outer experience the interpretation by self-conscious subjects of the action of reals which thought itself does not create? This we believe to be the true solution of the problem, and the explanation of the refusal of outer experience to be taken up into and merged in inner experience.

But before going further let us deal with an objection which is certain to be raised. The assumption that a trans-subjective real is implied in presented objects will be termed gratuitous. The apparent independence of the object, it will be contended, is entirely the outcome of conceptual thought. For the application of the concept generalises the particular experience of perception, and treats it as an instance of a general relation: and this just means that "we are conscious

we have before us an object which exists independently of its presentation in the particular case". On this view the seemingly independent outer object would be, if not relative to the individual thinker, yet relative to "consciousness in general,"—the rational self-consciousness which is the same in all human subjects.

In reply we may point out that conceptual thought depends for its individual reference upon perceptive experience, which is altogether special and concrete. As Kant himself granted, particular connexion in experience can only be learned from experience; laws of nature like gravitation cannot be deduced *a priori*. The ground then of the particular character of individual objects and the special relations in which they stand to one another can only be found in perceptual experience. It is indeed only by an act of abstraction that we can picture a purely percipient ego. But none the less this percipient consciousness must take note of and be affected by realities other than itself, in order that universal experience may have its specific side. For conceptual thought can only evolve out of perception what is implicitly contained in it. That the perceptive consciousness is not aware of this reference of the percept to something beyond itself is no disproof of the fact that there is such a reference. If inferential thought compels us to postulate this reference, we must accept its verdict. For we open the door to a hopeless scepticism, if we refuse to admit that the real must conform to what is rational. I shall now give one or two illustrations to show that experience is not explicable unless we posit such a transsubjective reality.

What we term external experience impresses us as containing an element of inevitableness. We are conscious that we have a share in directing the process of our thoughts or the movement of our limbs, but if we look to the heaven above or the earth around, the things we see we cannot help seeing.¹ The process of consciousness in the individual persons A, B, C and D, may be very different at a particular time, but at a certain moment they all, without choice on their part, register an experience X,—say the appearance of the sun. Let us call the percepts of A, B, C and D, *a, b, c, d*; then *a, b, c, d* contain an implicit reference to *x*, which becomes for universal thinking X. But suppose they do not, and that X is an abstraction elaborated out of *a, b, c, d*.

¹Berkeley, in his *Principles of Human Knowledge*, distinguishes in this way perception from imagination.

Then there must be some reason in the series *a, b, c, d* why the abstract X should be evolved and not Y or Z. That is to say *a, b, c* and *d* must each be so qualified that it accepts the interpretation X but excludes Y or Z. *Ex hypothesi* the cause of the specially qualified percepts *a, b, c, d* cannot be found in the previous condition of A, B, C, D. Nor can the Abstract X give any common qualification to these percepts. Consequently the sudden manifestation to different minds, the consistency, the inevitableness of the experience we call X becomes quite unintelligible. And the facts remain inexplicable unless we admit that X is more than an abstraction, and is significant of something (*x*) which has a reality for itself.

We put the same point in a somewhat different light when we direct attention to the fact that a person refers various experiences which he has had at different times to one object A. He has seen A frequently, and believes that if he complies with the conditions he will see it again. For popular thought this is the common, if fallacious, argument for the independent existence of A as it stands. Plainly however A in its unique setting cannot be deduced from the universal side of experience: nor is there any constraining reason in the individual himself why he should refer various percepts to one and the same object A. That necessity comes from the side of the object, and A must stand for something which has had a determining influence on perception while it persists beyond it. Again, however inadequate the "laws of nature" may be as an explanation of concrete reality, yet they have validity in nature. They enable us to anticipate experience. An eclipse is predicted years before it happens, and it takes place exactly as predicted. Here we have a perceptual experience A furnishing the basis for a mathematical construction on which the forecast was made which was verified in perceptual experience B. Between A and B there is a process which need not come into consciousness at all, but must be real if B is to take place. The facts require us here to assume that the rational process by which B is deduced from A has for its counterpart an activity in things which thought interprets but does not create.

These are somewhat obvious instances, but we must not ignore their significance on that account. They all unite in enforcing the one lesson. We admit that the objects of outer experience are ideal constructions, but the facts compel us to add that these constructions can only be valid interpretations of a reality beyond. And in regard to the distinction between inner and outer experience we conclude that outer

experience has the special character which attaches to it, because it directly implies that the subject is influenced by realities other than itself. The subject creates the distinction, but it does so as its interpretation of a real difference within the whole of its experience.

We must now try to form a more definite conception of of this transsubjective reality which we find it necessary to postulate. But we require to state our position in this reference with some care. It will not do to argue that in "physical events" as distinguished from the subjective sequence of ideas we have the fundamental notion of externality.¹ For a 'physical event' is by no means a primitive datum of consciousness but implies ideal construction; and it is absurd to suppose that the object as it exists for developed consciousness has the same significance apart from consciousness. Influenced by these considerations, J. S. Mill, as is well known, defined matter as "a permanent possibility of sensations"; and he explains that these "permanent possibilities" are "not constructed by the mind itself but merely recognised by it".² That which persists through changes and has capacities must in some sense be real; but Mill gives us no light as to how we are to think of this reality. Nor, on the whole, has Kant's treatment of the subject been helpful. His "thing in itself" is at one point regarded as the positive source of sensations, but afterwards it is fined down to a mere limiting notion.³ On neither view is the process of experience intelligible; and the conclusion seemed inevitable that philosophy must either return to the realism of Locke or advance to the absolute idealism of the post-Kantian thinkers. Without committing ourselves to this inference we may frankly allow that the notion of "things in themselves" is inconsistent as well as useless. That which *ex hypothesi* possesses no knowable qualities can never be coerced into active relations with elements within conscious experience. If this were possible the original assumption must have been wrong, and the 'thing in itself' instead of being an impenetrable mystery has some affinity to consciousness. It might seem, then, that in trying to do justice to the facts of outer experience we have reached an *impasse*. On the one side it appears impossible to explain the facts of sense-

¹ Vide, MIND, N.S., No. 22, p. 222.

² *Exam. of Hamilton*, 6th ed., p. 239.

³ With this we may compare the Aristotelian $\bar{\nu}\lambda\eta$ which is sometimes spoken of as mere privation— $\sigma\tau\acute{\epsilon}\rho\eta\sigma\iota\varsigma$, and at other times is regarded as a positive means through which individuals are differentiated.

perception if the object only exists as experienced. On the other side, if we postulate an unknowable reality behind the things of sense, the unity of experience becomes inexplicable.

There is one sense in which no sober idealist refuses to admit that the object of experience has a reality of its own. Among the objects of our experience are other human subjects who, we inevitably infer, have a reality for themselves. Entering into our experience they can never be dissolved into it, but persist beyond it. This is an admission of some significance. For it means that we recognise individual centres of thought, feeling, and will, which decisively influence our consciousness, while they are independent of it. Here we have a principle of individuality as object, whose qualities, as recognised and interpreted by us, are represented in it by modes of its own activity. And when we have admitted this we are bound in consistency to go further. The law of continuity, as justly insisted on by Leibniz, forces us to regard the principle of individuality as having many stages and degrees of development. There is no break in the process by which life advances to consciousness and to self-consciousness; and the line of separation between organic and what we call inorganic matter is a ravishing one. Moreover, the psychologist is compelled to postulate the reality of a sub-conscious mental world, in order to explain phenomena which are manifest above the threshold of consciousness. And it is reasonable to suppose that what is substantial in lower forms of life is one in kind (though very different in degree) with the conscious self in man. The latter would be the *ἐνέργεια* of which the former was the *δύναμις*. The real on which the ideational activity of the subject works in constructing the phenomenal world is, on this view, manifold spiritual substances or causalities; and the diverse qualities of the world as given in experience, would be grounded in the various activities of these substances. The basis of the phenomenon termed matter is, on this theory, an inner life which is allied to our own consciousness.¹ The point we wish to urge, then, is that, if you accept the world of intersubjective intercourse as a fact, you cannot restrict the principle to the relations of human individuals with one another. The interaction of individuals not existing merely for each other, but each for itself, must also be possible at lower stages of development, and there is no break in the process of advance from the lower to the higher. Hence

¹ Cf., Paulsen, *Einleitung in die Philosophie*, p. 387; Stout, *Manual of Psychology*, p. 54.

there seems to be no valid reason why one should not admit that our so-called external experience involves the presence to our consciousness of manifold spiritual substances which are subjects at lower planes of development. A transsubjective real is inferentially necessary to explain external experience; and as we construe this real in terms of spirit and not of matter we cannot be accused of setting up a dualism which makes knowledge inexplicable. The constructive work of thought has been already referred to. But thought cannot weave out of itself the content of experience. Something must be given, and the requisite *fundamenta relationis* are supplied by individual reals, by everything which possesses a degree of inner life and is for itself as well as for others. On this hypothesis we do justice to the primacy and centrality of the inner life, while we avoid the absurdity of reducing external experience to thought-relations, or of positing unknowable "things in themselves" behind the phenomena of sense.

We are now in a position to deal with a point of some importance which bears on the distinction of inner and outer. We mean the spatial reference which the distinction suggests. It may be assumed here that neither space nor time can be an empty form having a real existence which is somehow applied to things.¹ They must, therefore, be in some way developed out of the content of experience itself: though not real in themselves they must be evolved from some basis in reality, or to use a phrase employed by Leibniz, they must be *phenomena bene fundata*. This point of reference to reality can only be found in the interaction of those individual reals which are the ground of experience. The mutual determination of different spiritual substances would be represented from the standpoint of the perceiving subject under the form of space. And inasmuch as all experience must be construed in terms of the states of a subject for which both itself and other selves exist, we have time as the universal form in which the subject represents everything that happens. The long history of experience and the generalisation which is its outcome have served to invest space and time with a seeming reality and independence of their own. Only the unworkable nature of this conclusion and the contradictions in which it involves him, shake a man's natural faith in an opinion which seems so well founded. It would be too much to say that the theory we accept satisfactorily solves every difficulty, but it avoids a twofold error. For it treats neither space nor

¹ Vide, Lotze, *Metaphysics*, bk. ii., chaps. i., iii.

time as an independent real, nor does it reduce them to subjective mental fictions which cut us off from reality. They are representations in the subject, but they are also valid forms under which he interprets what is real.

From the standpoint of the historic development of experience the universal point of view is late. To the merely perceptual consciousness space and time would not be distinguished. The "selective interest" or the practical need which turns the attention of the animal to space and time is concerned with the fact of movement which involves both. I refer to the temporal and spatial adjustments which are necessary to secure food, to seize prey, and to escape a foe. And it is from the association in man of active movement with the capacity of generalising that the differentiation and development of the ideas of space and time are due. The stages of this progress are however matter for psychological discussion. The final result is that space is hypostatised as a comprehensive whole which exists for itself, and which contains within it all that generalised experience treats as an independent reality. And language has given universal currency to the habit of speaking of what is believed to belong to the mind as *in* it and of what does not belong to it as *outside* it. Philosophic reflexion forces us to correct this abstraction. Both the spatial image and the object it contains are shown to belong to the mind as ideal constructions. Yet the common-sense point of view has a certain justification. For ideal construction is at root interpretation; and in the existence and activity of transsubjective realities lies the possibility of our representing to ourselves the world of objects extended in space.

In the remainder of this paper I shall try to answer certain objections which may be made to the theory of reality we have accepted. You have admitted, it will be said, the presence of ideal construction in experience, why should you infer that so-called things are anything more than such constructions? A thing, however seemingly solid, is only the meeting-point of universal qualities or relations. In reply it may be asked, What is meant by a meeting-point? Evidently something which serves as a ground of identity and a bond of connexion between the qualities. These cannot fly loose and unclaimed in the world of experience. For if in a sense they belong to reality as a whole, yet they definitely pertain to particular determinations of reality and not to others. No doubt if we suppose that qualities are somehow attached as adjectives to isolated fragments of reality, we shall be proved inconsistent: the substance does

not exist outside its attributes. But this objection does not apply when we conceive the 'support of qualities' after the analogy of the self, and construe the qualities themselves as representations in consciousness of the interaction between spiritual substances.¹ In a similar spirit it is said that to advocate the reality of things is to champion a mere fiction of the mind. For the so-called thing is "ruined by thought": it goes to pieces under the touch of the speculative inquirer. Popular thought is certainly arbitrary in the way in which it applies the name; and we do not deny that things are sometimes mental fictions. A bag of grain might be called a 'thing,' while the name would not be given to the contents spread out upon the floor. But popular terminology does not concern us here; and we prefer to speak of individual reals which have a being for themselves. These are not due to ideal construction, but are presupposed by it, for without them thought would not have data on which to work. Obviously it will not be possible for us, with our present knowledge, to distinguish what is individual at levels of development far distant from our own.

But even in this sense, it is contended, the existence of individual reals cannot be maintained. The more we reflect the better we shall see that the significance of every predicate involves relations which force us to go beyond the individual itself; and the further we carry the process, the more unreal becomes the abstraction which remains. The fact is, as we learn, that an individual, or monad, is a fiction; it is reducible to a mere adjective which falls within the only true individual, the universe as a whole—the one ultimate reality.

As a result of this drastic argument not only 'things' but conscious selves are 'ruined,' or at least they should be. For the reasoning employed, if valid, ought also to undermine the individuality and identity of the human self by dissolving it into a changing tissue of relations. The logical consequence of this argument must be to discredit any theory of reality which the human ego can form. Experience, on the contrary, testifies to a self which distinguishes itself from its states and maintains its unity in them. And it is after the analogy of the self that we conceive the individual reals which are the ground of the external world as perceived.

It will still be urged that the test of the truth of any theory is its coherency; in other words, if we can "think

¹ It will be said that this is tacitly to admit that the individual is only qualified in virtue of its relations. I do not think so, for the qualities which become explicit through interaction point to positive differences in the monads themselves.

it out" consistently in all its bearings, we establish its claim to truth. And individual reals cannot be "thought out" without yielding up their reality to the absolute. That there is an element of truth in this contention we do not deny, and we will return to the point presently. But if you reduce individuals to mere appearance and turn their identity into a fiction, in the ostensible interests of rational explanation you are ignoring facts which require to be explained. If like Parmenides you say that the *one* only is and the *many* are not, you have still to account for the illusion of 'not-being'.

Suppose for the moment that thought did compel us to merge all individuals in the one perfect individual or absolute, I do not see how on this supposition we are to explain the appearance of individuality within the whole. For it can hardly be maintained that the illusion is due to the abstract method of ordinary thought which concentrates attention on one aspect of reality and neglects the rest. On this assumption the term might be applied or rejected according as the point of view changed. Yet there are centres of experience which claim to have a reality of their own from whatever standpoint they are regarded. And one cannot understand how, if the theory of reality we are considering be true, such a claim could ever come to be made. But, it may be urged, the rights of logical thought are supreme, and to deny these rights is to pave the way to a scepticism of the worst kind. And certainly if thought and reality are not ultimately consistent, philosophical discussion must be fruitless. Still it does not seem to me that the demands of coherent thinking forbid us to attribute reality to individuals which are not themselves absolute. If you assume that the individual is simply its relations, then it may consistently be deprived of any being for itself in the ultimate system: but the validity of the conclusion is spoiled by the inadequacy of the premises. The self which thinks, and so relates itself to other objects and objects to one another in the relational form of consciousness, is not the whole self. And though we are bound to accept the relational system as a valid interpretation by thought of what is given in experience, we are not entitled to say that the whole self of experience is exhausted by this interpretation. Thought presupposes experience, and in some form experience must have preceded the genesis in time of intellectual activity. It is just because experience is richer than thought that a self, or individual centre of experience, is, in Prof. Ward's phrase, a *fundamentum relationis*.

A few further observations on this point may be made. Mr. Bradley has justly remarked that the subject in a judg-

ment must always have a reality beyond the predicate. To reduce the two sides to a fundamental identity as aspects of one thought-content is to destroy the possibility of predication.¹ And this must apply to the judgment of self-consciousness as well as to that of perception. Thus, when we predicate thought of the self, the judgment is made possible by the fact that the self is also a centre of feeling and will, and cannot be dissolved in the pure unity of thought. This distinction makes the judgment significant; and self-consciousness is an illustration of the principle that the object of thought is more than thought. On the other hand, all three elements are embraced in the self as subject of experience, and so the self is not a reality beyond experience in this wider sense. We are not, therefore, entitled to argue that the subject of experience is equivalent to thinking-subject, and on this ground to claim that the object is thought and nothing more. The reality to which I refer my states of consciousness must always be more than these states. We have already tried to show in what way we think this reality is to be conceived.

It would be futile, however, to deny that those who believe the hypothesis of individual reals to be justifiable and even necessary are not in a position of great difficulty when they try to explain their place and meaning in the ultimate system of things. Dr. Ward, for example, in his *Lectures on Naturalism and Agnosticism* accepts the principle of individual selves or centres of experience, but it is somewhat difficult to understand the relations in which he conceives these centres to stand to the Absolute. God, we are told, is "the living Unity of all," and behind the development of experience there can only be "the connecting conserving acts of the one Supreme".² Moreover Dr. Ward admits real contingency in the divine working, but it is the contingency "not of chance but of freedom". In his view the divine Unity which comprehends all is evidently not that of a system where all the elements are determined in relation to one another and to the whole. A view like the foregoing requires a good deal of explanation, and if it obviates certain difficulties, it also exposes itself to certain criticisms. In any case it would have been interesting and valuable to have had a more explicit statement on this point from so able a thinker. For it is just on this question of the relation of individuals which are real to the Absolute that opponents press home their arguments most strongly. Thus it is urged, "those who cling to the idea that there is an absolute

¹ *Appearance and Reality*, p. 170.

² *Op. cit.* vol. ii., pp. 280-281.

principle of individuality in man and in other finite substances seem necessarily to be led to a denial of all real connection or relation between such substances."¹ It must be granted of course that there can be only one absolute Being, and a plurality of *res completae* is impossible. To claim such absolute reality for individuals would be suicidal, seeing that each is only an element in the universe, and all must find a place and receive a meaning in a coherent system. For this we require a supreme connecting and organising activity which is present in all individuals. Lotze tries to satisfy this need by saying that all substances "are parts of a single real Being".² Yet if this statement be accepted as it stands, it does not appear possible to resist the inference that the Pluralism, which philosophy found it necessary to postulate at an earlier stage, is only a temporary hypothesis, and is superseded when thought rises to the final synthesis. The use of the term 'substance' in this connexion has been objected to. Wundt, for example, criticises it, and would substitute for it causality or activity.³ But it is not clear that the material associations which, as he points out, cling to the one word are absent from the other. Moreover, if we are to think of activity at all, it must be as the activity of something real: and we do not mean more when we use the word substance to denote a centre of experience. In his *Microcosmus*, Lotze has stated somewhat differently his attitude to the ultimate Unity which philosophy strives after. "It seems to me that philosophy is the endeavour of the human mind, after this wonderful world has come into existence and we in it, to work its way back in thought and bring the facts of outer and inner experience into connexion so far as our present position in the world allows."⁴ The note of caution here is justifiable. For our thought is necessarily infected by spatial and temporal metaphors. And space and time on any view cannot adequately express the nature of the Absolute. We are inclined to forget that categories which are valid within experience cannot be employed in the same way to the ultimate conditions of experience. And it is evident that no category at our disposal is entirely adequate to explain the relation of the Absolute to the individual.

¹ Caird, *Evolution of Religion*, vol. ii., p. 83.

² *Metaphysics* (Eng. trans.), vol. i., p. 165.

³ *System der Philosophie*, p. 427. Paulsen's position on this point is, I think, just. He advocates the use of the term *substance* here, only demanding that we first make clear what we mean by it. Atomistic associations are of course out of place.

⁴ *Microcosmus* (Eng. trans.), vol. ii., p. 718.

The result of our discussion then is, that the facts of outer experience lead us to infer that the individual subject is here in direct relation with a system of other-selves. In inner experience again, the subject's own activity is primary and relation to other-selves is only indirectly implied. But though we claim that the monads are real, the reality which pertains to each individual can only be secondary or derivative. For the individual has its determinate character elicited through interaction with other monads, and the whole system presupposes an organising ground and principle of unity. If we desire a figurative expression of this unity in difference perhaps we might find it in the connexion of soul and body. In an organism the separate parts, or members, are essentially related to one another, while each has its specific function in the whole. The soul again, or the *ἐντελέχεια* to use Aristotle's word, is the presupposition of the organism and the ideal principle which gives it meaning and truth. By some such analogy we may conceive of the Absolute as immanent in all individuals, yet allowing to each a definite function and degree of reality in the whole, while its own being is not lost in the process of finite experience. For that the universe is a coherent whole is a presupposition both of thought and of ethical action.

A further observation may be added.

In any view we take of the ultimate Unity, we must not ignore the world of ethical and spiritual values. For the facts of moral and religious experience have as good a claim to be taken into account as the facts of science. The tendency to "excessive unification," which Aristotle objected to in Plato, has always been a danger to which philosophy is peculiarly liable. And a philosophy, which in the interests of system undermines the moral-responsibility of the individual and treats religion as an illusion, lays itself open to the charge of explaining away what it cannot explain. The intellectual necessity we are under of striving after unity in all experience must be conditioned by the ethical necessity by which we postulate that the Supreme Reality satisfies our spiritual nature. There can be no final dualism between the two spheres any more than there can be between inner and outer experience. But the Absolute, be it remembered, does not merely explain an aspect of the world but the world as a whole. And a thinker whose outlook is catholic will try neither to ignore nor to misconstrue any phase of experience in order to secure unity of system.

VI.—DISCUSSIONS.

EXISTENCE AND CONTENT.

BOTH in the *Principles of Logic* and in *Appearance and Reality*, Mr. F. H. Bradley has demonstrated the fundamental importance for Logic and Metaphysics of the problem involved in the relation of "existence" to "content". In it the keynote to his own system of thought is to be found: with it T. H. Green, in his treatment of "feeling" and "relation" vainly strove: Kant, himself, under the caption of "Sensibility" and "Understanding" found there the pivotal points of the theory of knowledge.

In continuing the investigation of this problem we shall assume several positions advanced by Idealistic philosophy. (1) Reality can be stated, and consequently has meaning, only in terms of Experience. (2) By Experience is meant not the mere private and limited Experience of any finite individual but the absolute medium to which investigation of the final structure of Reality leads us. (3) Knowledge is the instrument by which Reality is definitely determined for us.

As Mr. Bradley's formulation of the problem is recent and most exact, we shall use his treatment as the starting-point of our own investigation. His difficulty may be stated thus. The recognition that Reality and Experience are identical leaves us entirely in the sphere of indeterminate existence. We know *that* Reality is found in every aspect of experience, but its *determinate* characteristics are not thus revealed to us. Reflexion upon "existence" is required before its indeterminateness is reduced to the definiteness and coherency of "content". But "content," however determinate, is constructive. Its meaning is embodied in abstract universal ideas. Knowledge therefore is essentially a process of substituting *general symbols* for the concreteness and fulness of immediate experience. Furthermore "content" is always fragmentary and is developed piecemeal. Accordingly, to Mr. Bradley's mind Knowledge appears to mutilate the given Real. Were it even thinkable that Knowledge could overcome its fragmentary nature, the difficulty would remain that "content" is altogether abstract and general. Knowledge is hopelessly infected, constitutionally diseased. The difficulty is fundamental, involving every aspect of meaning from the simplest to the most complex. No

category, even that which involves the barest determinations of Being implicated in the distinction of a "this" from a "that," can escape. Mr. Bradley is driven to the conclusion that Knowledge is a perversion of experience: "content" conceals instead of exhibiting Reality.

And it is not to the point to maintain, as do certain members of the Idealistic school, that the reflective transformation, which "existence" undergoes in thought exposes a more complete and inclusive Reality. Such argument errs in mistaking determinate, conceptual meaning for concrete individuality. The source of the error is found in an unconscious equivocation in the use of the terms *determinate* and *inclusive*. Looking toward the desired outcome of their thought, these Idealists use the terms as meaning something more concrete and individual than what was previously had in mind. For them, indeed, to be determinate and inclusive is equivalent to being concrete. The single, determinate, all-inclusive Reality of Green, Bosanquet and Caird is intended to be quite concrete. In fact, however, it is a highly organised concept, and is therefore essentially abstract. The original Totality was concrete but indeterminate: the reflective Whole is determinate but symbolic. In the process of transformation the individuality of the *given* has escaped. This result is veiled from the above-named writers in several ways. First, by the dialectical conviction that to determine experience ideally is equivalent to revealing its concreteness. Second, by the device of including the particular as well as the universal within the movement of the dialectical transformation. We are reminded that if percepts without concepts are blind, it is equally true that concepts without percepts are empty: particular and universal are essentially correlative and equally valid. Now this may be quite true, and yet the difficulty raised by Bradley remains unanswered. For when we look more closely into the arguments of the writers above mentioned we find that the second leads back to the first and the first to the defect indicated by Bradley. It may be admitted that percept and concept, particular and universal, are correlative. We may go so far as to insist that the *meaning* is identical in both, and that the distinction rests upon the use to which it is put. Meaning used freely and apart from its original embodiment is conceptual: meaning embodied in some individual aspect of experience is perceptual. The more definitely we set ourselves to the determination of meaning, the more do we overlook the individual embodiments of ideas and tend to set up the organised symbol of reflexion as ultimate Reality. For this reason it is correct to say that the all-inclusive Reality of Green and others is no more than an all-inclusive Concept. No doubt these Idealists desire to retain concreteness. Although Green's thought is somewhat elusive upon this point, still one can find an indication in his writings that the Absolute somehow includes the immediacy of feeling with the mediacy of thought. But to such a result his method

does not entitle him. For if the Real is to be constituted by meaning, if the indeterminateness of felt experience inevitably resolves itself into the determinateness of relational experience, this Ideal Whole must be taken as the final Reality. Of this necessity Green appears to have been conscious to a certain degree. Throughout his work he endeavours consistently to reduce feeling to relation, while, at the same time, he appreciates instinctively that immediacy must be *included* and not *reduced*¹ within the Absolute.

This unsolved problem of Green forms the starting-point of Bradley's contribution to English speculative thought. While admitting the value of Green's work, he insists upon its limitations. He recognises that if meaning *constitutes* Reality, thought inevitable falls into contradictions. In the first part of *Appearance and Reality* he has applied this insight in detail, and has shown specifically that the fallacy of substituting the abstract for the concrete leads universally to the dialectical illusion which causes us to take regulative principles for metaphysical entities. Substantive and Adjective, Relation and Quality, etc., when set up as absolute, contradict themselves and turn out to be mere Appearance. Meaning is relative; it is Appearance and not Reality. This is the burden both of *Appearance and Reality* and of the *Logic*. Meaning cannot constitute Reality; for every endeavour to substantiate it lands us in hopeless contradictions. For this reason Bradley recognises a distinction between "existence" and "content". "Existence" is direct and immediate experience, experience felt and not reflected upon, the inexhaustible storehouse of reflective construction. "Content" embodies the results of reflective activity. In its completeness it is determinate and inclusive but abstract. Meaning realises itself in symbols. It sacrifices colouring to definiteness. As matters stand, therefore, we must admit the point of Bradley's contention. Reflexion is essentially a transforming of the immediate and given. It is also a substituting of a fragmentary though definite experience for that which was more complete though quite indefinite. It may be that a reason for such high-handed procedure on the part of Reflexion can be given, but it must be admitted that such a reason is required. To grant the contention, however, is to admit that meaning cannot *constitute* Reality. This raises a further question: "Has meaning a legitimate function?" At first it might appear as though Reflexion were essentially destructive. If we take the position that Reality resolves itself into meaning, then we must admit that thought involves itself in hopeless contradictions. If again we measure meaning in terms of the immediately given, we shall be forced to accept Bradley's contention that thought mutilates Reality. If still further we recognise that the difficulties and contradictions of thought are brought to light through the operation of thought, we shall be led to think that some solution of the difficulty is possible. But this solution

¹ Cf. *Prolegomena to Ethics*, p. 51, § 50.

may be sought in various ways. We may postulate with Bradley an inclusive immediate Experience in which the contradictions and discrepancies of reflective thinking are overcome and shown to be somehow real contributions to the active life of the Whole. Such a standpoint, however, can never lead us beyond the conviction that somehow or other the diremption effected by thought *must* be made good. To Bradley's mind the solution can never be given properly until the content of the Whole is grasped in an immediate perfect way: knowledge in other words is validated only in the Absolute. For us it must remain hopelessly infected, constitutionally diseased. If the nature of each factor is valid only when its position in an absolute synthesis is found, it is evident that we are left without any working criterion whatever. And no matter what else is true, this must be granted, that thought and knowledge appear to have meaning for the finite and the human. It is evident, therefore, that although we grant to Bradley a distinct contribution in forcing upon us a reconsideration of the problem of Knowledge, his own contentions do not lead us to any positive outcome. The true solution of the difficulty is to be found in a closer examination into the function of thought. Meaning is constituted through the development of ideas. What is true, therefore, of ideas must also be true of thought and of knowledge. Now ideas are symbols, and their function is regulative, not constitutive. Instead of supposing that ideas serve the purpose of setting a limit to reflexion, we must regard them as instruments of control in mediating exchanges between different aspects of experience or in transforming one into the other. So surely as ideas are set up as limits to the process of Reflexion, so surely must we sacrifice the immediate to the mediate without thought, or on the other hand regard the process as impossible or illegitimate. In either case difficulty awaits us. If, however, ideas are no longer set up as limits to reflexion, but are regarded as instruments of control, we avoid the old contradictions by removing the source of difficulty and at least place the problem upon a different plane. And what is demanded at this point is that we carry through the analysis of ideation and meaning. When we do so, it becomes evident that our contention is well founded. It has been recognised by logicians that ideas are symbols, and still full use has not been made of the information thus gained. As symbols, ideas have a double value. They project in our minds (a) the anticipations of certain definite experiences; (b) the conditions under which these experiences may be realised. Meaning, therefore, is essentially regulative. As an anticipation, it flashes before us the determinate experiences which we may expect in a given set of circumstances: as a condition, it calls our attention to the means by which the experiences may be realised. Knowledge rests, generally, upon the recognition that new experiences can be realised through the operation of appropriate conditions, and specifically upon the determination of the exact conditions which

at any given moment control the realisation of just the experiences which we desire or anticipate. The criterion, as will be seen, lies in the transformation of anticipation into direct experience. Knowledge in its essence is thus essentially concrete. With Bradley we may agree that the development of ideas is a substitution of the abstract for the concrete, of the partial for the more complete, of the cold and bloodless for the warm and vital. But in addition we recognise that, as symbols, ideas constantly and as part of their inherent purpose carry us back to the concrete and the individual. That they succeed in their purpose (as is evidenced by every moment's experience and by science) is the justification of their existence. Knowledge is thus set upon an entirely new plane. When we ask concerning truth and falsity, we are no longer referred to an all-inclusive Whole, be it concrete or abstract, but to the relation of anticipations and conditions. Meaning no longer sets up on its own account, but performs the more modest function of regulating activity and of mediating determinate experiences. When it has shown exactly what experiences may be legitimately anticipated through the operation of such or such conditions, it has done its work. That new puzzles are constantly appearing in no way invalidates the general principle, and therefore the question of the ultimate content of Reality becomes of no moment whatever. That Knowledge has developed means that in the process of time mankind has become increasingly aware of possible experiences and of their conditions. That Knowledge will develop, means that mankind will continue to extend the range of legitimate anticipation and to develop more precisely the connexions between conditions and their outcomes. That mankind can thus determine its sense of Reality is the proof of the real value and nature of Knowledge. The search for an impossible all-inclusive Whole becomes uninteresting and useless: the development of Knowledge resolves itself into the differentiation of effective instruments of experiential control: their organisation into systems means increase of power, ease of movement, enrichment of individual experience. Meaning is inherently regulative: Reality is revealed to us ever in new forms. To search for a final statement is to change regulative principles into constitutive entities, and thus to destroy their significance. "Content" must therefore remain as a dynamically developing instrument of mediation between the terms of equally developing "existences". Reality is found in both terms, but is made determinate in the process.

S. F. MACLENNAN.

VII.—CRITICAL NOTICES.

Philosophy, Its Scope and Relations; an Introductory Course of Lectures. By the late HENRY SIDGWICK, Knightbridge Professor of Moral Philosophy in the University of Cambridge. London: Macmillan & Co. Limited, 1902.

THIS volume forms a welcome supplement to the published works of its lamented author. It serves to define his position in reference to questions of general philosophy which are dealt with only incidentally, if at all, in his works on ethics and politics; and there is an occasional intimacy in the expression of personal opinion in these lectures which one does not meet in the judicially balanced discussions in his other works. It is of important service to contemporary thought to have its main problems and their proposed solutions submitted to the critical scrutiny of so independent and sincere a thinker. There can have been few men who possessed in so high a degree as Sidgwick the spirit of intellectual fairness which enabled him to appreciate whatever real force belonged to an argument; and the same scrupulous intellectual conscience made him the most searching critic of the weaknesses and ambiguities lurking in many fashionable theories, whether of the naturalistic or the idealistic order.

The volume is based upon courses of lectures delivered at Cambridge within the last ten years, and has been judiciously edited by Prof. Ward. The title describes more accurately than is the case with most books the actual contents of the work. The earlier lectures seek to reach a definition of 'the scope of philosophy' in relation to, and in distinction from, the sciences. The relation of Philosophy to Psychology and the meanings of the terms Metaphysics and Epistemology as compared with the larger term Philosophy are then discussed. These five lectures may be conveniently spoken of as the first part of the book. The second part (Lectures v. to xi.) deals more in detail with the relation of Philosophy to History and Sociology, and is in fact a careful discussion of the value of the historical method and the limits of its application to ultimate philosophical questions. This is probably the part of the volume which will attract most general attention. The last lecture which is somewhat detached from the rest has a title arising out of the definitions of the earlier lectures—'The

Relation of Theoretical to Practical Philosophy'. It deals—unfortunately far too briefly—with the postulate of Theism, or at least of Moral Order, as a solution of the divergence between 'what is' and 'what ought to be'.

It may be admitted that philosophers sometimes spend too much time in the demarcation of the different departments of their subject. To assign a problem to a specific department is not to solve it, and a reader impatient of formal distinctions and anxious for real nutriment may occasionally suspect that such relegation of a question is a convenient postponement of a troublesome difficulty. The use of such discussions, however, is obvious. Controversy, as Sidgwick puts it at the outset, usually implies mutual misunderstanding among thinkers. "If a thoroughly distinctive and comprehensive definition of the province of Philosophy could be worked out and universally accepted, its acceptance would mean that we were at least agreed on the questions that the philosopher has to ask, if not on the answers that ought to be given to them: and to ask the right questions is, as Aristotle saw, an important step towards obtaining the right answers" (p. 1). The want of a consensus of experts which so notoriously distinguishes philosophy from science suggests this method of approaching the subject. As he wittily puts it, "the differences of philosophical schools are so great and fundamental that it would seem to be only by a polite fiction that a philosopher of one school allows a philosopher of another school to possess philosophical knowledge on the subjects that he treats: and the politeness that consents to this fiction is not universal" (p. 6). It may be easier, therefore, to come to approximate agreement when we try to define "the knowledge we *want* rather than the knowledge we think we have got" (p. 13). Our definition, Sidgwick adds in the spirit of Aristotle, should be "*as far as possible* in conformity with common usage". He begins by provisionally accepting Spencer's well-known account of philosophy as completing the unification partially achieved by science, but states the relation more precisely thus, in accordance with the epistemological trend of modern thought: "Philosophy deals not with the whole matter of any science but with the most important of its special notions, its fundamental principles, its distinctive method, its main conclusions. Philosophy examines these with the view of co-ordinating them with the fundamental notions and principles, methods and conclusions of other sciences. It may be called in this sense '*scientia scientiarum*'" (p. 10). Spencer's conception of the unifying function of philosophy is, however, defective, he argues, on account of the exclusive stress which it lays on relations of identity or resemblance. A system of knowledge must explain differences as well as similarities. Thus Newton's identification of the fundamental laws of terrestrial and celestial motion explained at the same time the differences—explained, that is, why bodies fall to the earth approximately in a straight line, while planets go round the sun in

ellipses. The doctrine of Evolution, on the contrary, as generalised by Spencer and applied to the inorganic matter, to the organic world and to the world of mind, does not help us in the least to understand how the one differs from the other. Sidgwick also repudiates the suggestion that either science or philosophy is concerned merely with phenomena; both alike aim at a knowledge of realities. Spencer's definition, he proceeds to argue, is defective in another important respect, inasmuch as it seems to include only the positive sciences, thus "neglecting the fundamental distinction between 'what ought to be' and what actually is or appears" (p. 23). Besides 'theoretical philosophy,' which seeks to unify the positive sciences, room must be made for 'practical philosophy,' which deals with the principles and methods of Ethics and Politics. "The discussion of the ultimate end of right conduct is *not* concerned with 'the co-existences and sequences of phenomena'" (p. 24). It is true, some thinkers endeavour to treat Ethics as a purely descriptive science, but even they cannot avoid looking at it as an art based upon certain positive sciences rather than as itself one of these sciences. Practical Philosophy is "a supreme architectonic study of ultimate ends," subordinating some ends to others and endeavouring to systematise all the elements of human good in 'a theory of rational action as a whole'. It is thus "a study distinct from and in a manner parallel to Philosophy as conceived by Mr. Spencer;" and "the final and most important task of Philosophy is the problem of co-ordinating these two divisions of its subject-matter, and connecting fact and ideal in some rational and satisfactory manner" (p. 30). To do this belongs to Metaphysics in that aspect of it which used to be called Rational Theology. Some considerations on this subject are contained, as has been already mentioned, in the concluding chapter and in a Note on the relation of Philosophy to Religion.

A long lecture is devoted to the Relation of Philosophy to Psychology. The distinction between their respective methods of treating their common subject-matter is clearly drawn on lines generally accepted. Philosophy deals with thoughts and beliefs as true, psychology with the processes by which beliefs, whether true or false, arise in the individual mind. But the chief part of the lecture is devoted to a discussion of the relation of mind to the material world. Mind may be related to matter in two quite different ways; a mental fact may have a material process in the brain as its antecedent or concomitant, and it may also have a material thing present to it as an object of cognition. Sidgwick rightly remarks that, in spite of their fundamental distinctness these two relations are sometimes confused. Spinoza's theory of perception might have been cited as an example. In regard to the nature of the first relation which, he remarks, is "in the forefront of speculative interest at the present time for educated people generally," Sidgwick objects to the phrase that "mind and nervous action are the subjective and objective *faces of the same thing*," because it

obscures the essential disparateness of mental facts and nervous changes which Spencer elsewhere explicitly acknowledges ; and by suggesting " that the manner of connexion between the two so-called ' faces ' is manifest and their separation inconceivable," it takes an insensible step towards materialism. The fact of concomitance being admitted, the crucial point in debate is whether the causal nexus is to be conceived as lying wholly on the physical side. Sidgwick does not himself discuss this question but he points out that it is a question which neither Psychology nor Physiology, nor both together, can solve. It belongs to Philosophy to decide it or at least to muster the considerations which make for the one side or the other. The empirical psychologist may therefore leave the controversy on one side.

It is this first relation of mind to matter which gives to Materialism any support or plausibility which it possesses ; Idealism or, as Sidgwick proposes to call it, Mentalism arises in connexion with the second or cognitive relation of mind to its object. Mentalists (with whom may be classed Phenomenalists or Relativists) analyse matter as an object of perception into purely mental elements, either of the nature of feeling (Sensationalists) or of the nature of thought (Idealists of the type of Green). As against all these, Sidgwick announces his own metaphysical standpoint to be " speaking broadly that of what has been called since Reid the Philosophy of Common Sense or Natural Dualism " (p. 42). He warns us against supposing that he means in a few pages to discuss and decide this issue, but he argues that the question is one for metaphysics to determine and that empirical psychology does not decide it in favour of mentalism, as it is sometimes supposed to do. ' Reflective analysis ' resolves our cognition of matter into secondary qualities and relational qualities of extension and incompressibility ; ' psychogonical analysis,' in the hands of Relativists and Sensationalists, traces back this combination of percepts and concepts to association of sensational elements. But even should this ' conjectural history ' be true, the conclusion drawn by the Sensationalist involves " a fundamental confusion between antecedents and elements ". It has moreover to be observed that, while denying the extra-mental existence of matter in one relation, his own account of sensation usually assumes that existence in another relation as the physiological basis of the mental facts he is describing.

The two lectures which follow on ' The Scope of Metaphysics ' begin by repudiating the dyslogistic application of the term which would make it equivalent to ' inquiries which experience has shown to be futile '. ' That is not my view,' says Sidgwick bravely, ' I think that the questions, which—according to the traditional meaning of the word—it is convenient to distinguish as metaphysical, are, in part at least, questions to which as rational beings we are bound to seek some kind of answer ;—though we may have to content ourselves with a very imperfect and provisional

answer. . . . The interest of the questions is too profound to allow them to be simply ignored : so that even those philosophers who refuse to ask the questions have to give a reason for their refusal " (pp. 78-79). A definition of metaphysics is arrived at by contrast with the generalisations of the physical sciences, of empirical psychology and even such cosmic generalisations as the doctrine of the conservation of energy or the theory of evolution, all of which, even while claiming to be universally true, profess to rest on verification by particular empirical cognitions. Sidgwick's definition, therefore, is almost verbally identical with Kant's, although few men in the main stream of modern thought have been less under the influence of the Critical philosophy. "Metaphysics aims at ascertaining what, if anything, can be known of Matter, Mind, and their relations, besides such knowledge as is based upon or verifiable by particular empirical cognitions : that is, what can be known *a priori* and what can be known as necessary or universal elements or conditions of Mind and Cognition" (p. 90). The phrase 'verifiable by particular empirical cognitions' was adopted to meet the case of the Transcendental Method itself ; for inquiries proceeding according to that method would certainly claim to be 'verifiable by experience' inasmuch as its results are got by reflexion upon the nature of experience as a whole, and yet they are obviously to be classed under the head of Metaphysics. The short discussion of Transcendentalism which follows and the appended note on 'Transcendentalism and Idealism' are perhaps the least profitable part of the volume. Transcendentalism is a method of approaching philosophical questions rather than any single definite theory.¹ Sidgwick appears to connect it exclusively with the question of the 'reality' of space and time. "I am not convinced," he says, "by the arguments tending to show that Time and Space, Motion and Change are unreal and merely apparent." But surely the alternative here suggested is misleading. I should myself agree with him when he declares his inability "to form any clear, useful or definite conception of Reality out of Time and Space"; but for all that Time and Space are still forms of thought, and the fact that they are forms of thought does not make them 'unreal'; Transcendentalism in the largest sense is simply a method of demonstrating that reality is rational. We do not get here, however, anything beyond a summary statement of Sidgwick's personal position in regard to 'transcendentalism generally'. A fuller discussion of the subject, in connexion with the theory of T. H. Green, is promised in a volume of ethical papers already announced for publication.

Epistemology and Ontology are treated as complementary aspects or functions, rather than separate divisions, of Metaphysics, "for, in the main, when we have decided the most important epistem-

¹ I admit, however, that *Transcendental Idealism* as a technical term of the Kantian system has a specific reference to the doctrine of the subjectivity of Space and Time.

ological questions, we have, in my view—implicitly though not explicitly—decided the most important ontological questions”.

The lectures forming the second part of the book may be taken as a criticism of the militant saying, repeatedly referred to, that the historical method has ‘invaded and transformed all departments of thought’. In what sense and to what extent is this true? Mathematics and abstract physics, Sidgwick points out, may be said to be unaffected by historical considerations. The nebular theory does offer us a ‘speculative physical history’ of the physical universe as a concrete fact, but however far we carry it back, it leaves the differences or particularities of the cosmic fact as unexplained as at the beginning. In the nebula, ‘the heterogeneity has not disappeared, it has only been broken up smaller’. If we pass to Biology, it is certainly true that the historical or evolutionary method has transformed our knowledge of the organic world, but it is no less true that our theory of past change is based upon conclusions formed from scientific study of the present. Then, again, the Darwinian theory of the origin of man is often supposed to carry with it, if not materialism, at least the impossibility of the old belief in the continued existence of the individual after his physical death. But Sidgwick’s conclusion is that such an inference is entirely illusory; the theory ‘leaves the metaphysical problem of the relation of mind and matter exactly where it was’. As applied in Psychology, the method tends, as already argued, to confound psychical antecedents with psychical elements. “No ‘analysis’ of any conception or belief can, I conceive, show it to be something other than careful introspection shows it to be. Analysis can only ascertain conditions, antecedents and concomitants” (p. 151). We are here, however, brought face to face with the question how far the validity of beliefs can be affected by an investigation of their origin and history. This investigation is conducted by Sociology, and in considering the claims made for the historical method in this connexion we may perhaps better term it the Sociological method and speak of the relation of Sociology to Philosophy. The question then is “how far a sociological inquiry into the history of our beliefs can and ought to affect our philosophical view of their truth or falsehood” (p. 162).

It is certainly the case that, in such subjects as ethics, politics and theology, which are still subjects of controversy, a historical survey of the actual diversity and succession of human beliefs tends to beget a general scepticism as to the validity of any of the doctrines studied. Sidgwick admits that the tendency is natural, but he strongly denies that it has any logical justification. Historical study has no similar effects in mathematics or physical science or astronomy, fantastic as the opinions and methods of earlier *savants* now appear to us. It seems to be of the nature of things that truth grows gradually out of error. Hence even though demonstrably false opinions may be found among the

antecedents of some particular belief, they do not *prove* the falsity of the belief in question (though they may suggest it) unless they are put forward as reasons for holding it. The *destructive* effect of sociological inquiry seems therefore without warrant, but what are we to say of its *constructive* efficacy? The claim made apparently is that a study of the development of opinion yields the sole trustworthy criterion of truth. But is this the case? Let us suppose for a moment that we have ascertained completely the law of development of ethical, political, theological, or philosophical opinion so that we can state accurately the views which will be generally accepted by the coming generation. . . . "Suppose I foresee certainly that a belief will come, I cannot *therefore* conclude that it will be a true belief;" or in the case of an ethical belief, "the mere fact that I can foresee that it will come has no tendency to make me judge it good that it should come" (pp. 175-176). Moreover, in tracing the course of development in the past we cannot avoid treating it as a development through error to truth; but if we thus inevitably assume the truth of our own beliefs, further progress would seem to be a process from truth to error, and so the line of development in the past can hardly give us much insight into the nature of future advance.

Sociologists endeavour to meet the last difficulty by saying either that knowledge is 'relative' or that it is 'progressive'. Sidgwick has no difficulty in exposing the vagueness of the first reply and its untenability if strictly understood. If all knowledge is relative, then this one truth at all events is absolutely known—the truth, namely, that all truth is relative. "On this point, then, no further change seems possible, unless we suppose future humanity to lapse from knowledge into ignorance on this point. . . . But if no further change is possible, then surely, though in a different way, there must be a profound difference between the past history of belief, in which we trace the succession of generations pursuing absolute truth and mostly holding opinions—ethical, political, theological—conceived to be absolutely true, and the forecast of its future history, in which the pursuit and the consciousness of attainment can only be of relative truth" (p. 181). It is difficult to conceive the pursuit of truth going on at all under such circumstances. "The aim of attaining the true ethical or political ideal, the true view of duty and right and ultimate good, either in private conduct or the constitution of society, appears to me worthy of the sustained ardour and devotion which it has in the past actually aroused in philosophical minds: but I cannot imagine how any one should

Scorn delights and live laborious days

in order to pass from the relative truth of the nineteenth century to the relative truth of the twentieth, *supposing the latter to be not a jot more true or less merely relative than the former*" (p. 182).

The words which I have italicised formulate quite fairly the

position of a consistent Relativism, but they also lay bare the thorough-going scepticism which it involves. No one view is truer than another, so that the notion of truth entirely disappears. If we are to interpret the phrase 'relatively true' so as to avoid this scepticism, it can only mean that the knowledge or truth in question was 'the best approximation to knowledge or truth' attainable by the individual or period under consideration. Our knowledge, that is to say, is never complete; and, therefore, though true so far as we possess it, it is always subject to revision and modification through fresh discoveries and the attainment of a more comprehensive point of view. When the phrase is so understood, however, we may be said to pass from Relativism pure and simple to Progressivism—"the doctrine that the changes which history shows us in the prevalent beliefs of, let us say, our own society, exhibit a progress from less to more of knowledge and truth" (p. 196). But progress in knowledge implies the notion of an objective standard of truth, just as social progress or improvement implies some criterion of the good or the ethical End. In pronouncing any belief to be 'truer' (*i.e.*, a nearer approximation to truth) or any ethical practice or social state to be 'better' than another, we are making assumptions for which Sociology alone can furnish no justification. A purely historical or sociological survey shows us one phase of belief or practice following on another; it shows us the different causes at work producing the transition, but it gives us no canon for estimating their relative truth or value. In fact a consistent Sociology has no place for the notion of truth; it judges opinions solely from the point of view of their social efficiency. The only question it asks about any series of changes is "whether it tends continually to increase the social organism's power of preserving itself under the conditions of its existence" (205). The terms social 'welfare' and 'development' are often used by sociologists instead of, or along with, preservation, but I understand Sidgwick to argue that both these terms carry us beyond the bounds of pure Sociology. An organism adapts or adjusts itself to its environment and is so preserved, but this gives us no clue to 'the direction in which the series of self-adaptive changes is tending' and does not legitimate any conclusions as to 'development' or enhancement of 'welfare'. Progressivism is discussed (in Lectures x. and xi.) chiefly in connexion with social progress as the wider though vaguer notion. The discussion is fuller than that devoted to other topics in the volume, and the details are interesting, but it hardly seems to move with the same directness towards its goal. The main positions advanced are that even if we restrict ourselves to the idea of 'self-preservation,' many self-adaptive political changes may be pointed to which were not of advantage to the particular society in the struggle for existence. Progress in civilisation (in the arts of industry and peace, literature and the fine arts, etc.) may be a source of dangerous weakness in conflict with other social groups. And if we turn to the case of

beliefs there seems to be no evidence in the historic period of a clear general tendency in the changes to promote the preservation of the social organism in which they take place. Christianity, for example, did not preserve the Roman Empire. Mere preservation in short gives us no guidance and does not represent what is ordinarily understood by social progress. Illegitimate as it may be for the pure Sociologist, we cannot avoid having recourse to the notion of 'welfare,' and we must pass beyond particular societies to consider mankind as a whole. "We cannot, I think, measure social progress by any narrower conception than that of conduciveness to the welfare of humanity at large" (p. 216). The discussion of this ultimate End belongs to Practical Philosophy not to Sociology.

The concluding pages of the eleventh lecture contain a discussion of Comte's Law of the Three Stages. Admitting a large element of truth in the doctrine, if we are permitted for Theology and Metaphysics to substitute 'crude theology' and 'bad metaphysics,' Sidgwick points out that there can be no opposition between Theology and Science 'as soon as the Divine Will is conceived as a Will in which there is no caprice or irregularity and a Will whose order may without limit be investigated by human minds,' and there can be no real collision between Metaphysics and the sciences because they move in different regions and may be regarded as mutually complementary. Science is often supposed to be anti-teleological, but the sociological interpretation of the earlier stages of social development in the light of the later is eminently teleological; and in contemplating the advance of scientific knowledge (on which Comtian Sociology lays most stress) "we find ourselves irresistibly led to assume as real a completer knowledge, comprehending and going indefinitely beyond the imperfect and fragmentary knowledge possessed by human minds" (230).

The concluding lecture deals, as was indicated at the outset, with the problem presented by the divergence between 'what is' and 'what ought to be'. This is the fundamental problem of Rational Theology, whose task is "to bring our knowledge of what is into coherent relation to our systematic thought as to what ought to be, through the conception of God as a Being in whose righteous will what ought to be actually is" (p. 238). Anything like adequate discussion of this vast issue is naturally impossible in the six or eight pages devoted to it, and a review can do no more than note the general conclusions arrived at by an intellect at once cautious, intrepid and reverent. Rational Theology regards the laws of phenomena as a manifestation of divine ordering intellect, and the fulfilment of the rules of Duty as the realisation of the Divine Will. These Sidgwick regards as 'necessary assumptions for the religious consciousness,' but he does not consider that they really solve the problem, "since we inevitably ask why God's power does not cause the complete realisation of ideal Right". It may be argued that the divine

purpose can only be realised in beings endowed with Free Will, and that the possession of Free Will renders the admission of wrongdoing inevitable. In regard to Freedom Sidgwick maintains here the same balanced position as in the *Methods of Ethics*, but even if this argument be granted its full force, it only meets the question of moral evil—wrong free choice—and leaves the question of physical evil untouched. In regard to physical evil, he says, "I see no way of reconciling its existence with the goodness of God except by assuming that the Divine Will and Purpose work—like human will and purpose—under conditions. But in that case . . . the theological synthesis of 'what ought to be' with 'what is' seems to fail." Practical Philosophy itself requires the postulate of a Moral Order to reconcile the conflict between self-interest and duty. This postulate usually takes a theistic form, but we may believe in Moral Order without connecting it with personality, and, on the other hand, the chief abstract arguments used to prove Theism do not tend to prove moral order. "I myself regard Theism as a belief which, though borne in upon the living mind through life, and essential to normal life, is not self-evident or capable of being cogently demonstrated. It belongs, therefore, to a class of beliefs which I do not dispute the general reasonableness of accepting, but which I think have to be considered carefully and apart in estimating the grounds of their acceptance." Such beliefs—among which he mentions the principle of causality—may be called postulates; and if any such assumption is confirmed by the test of consistency with other assumptions and cognitions, its certainty becomes practically indistinguishable from other certainty. But in general "our acceptance of such propositions must have a provisional character, as compared with those that are self-evident or demonstrated". "The serious difficulty begins when such assumptions are divergent and conflicting. So far as this is the case, we must infer error in some or all of them, though we may believe the error to be useful, i.e., better adapted than truth would be for the life of certain minds. But the postulates of A can have no validity for B, who does not feel the need of them; on the other hand, B's recognition of their necessity for A must lead him to philosophic doubt of the objective validity of similar postulates in his own case" (p. 243). One could have wished that this doctrine of postulates, admittedly open to abuse, yet so fruitful in modern philosophy, had been more fully treated. The above account tends perhaps to place the matter on too subjective a basis. There is a difference, no doubt, between a postulate and a self-evident or demonstrated proposition. But if it can be shown that the coherence of experience as a whole or of some important aspect of experience is bound up with the validity of a certain postulate, it seems only in a technical sense that we can speak of the postulate as being less 'certain' than some isolated piece of self-evident truth.

To return for a moment to the discussion of the Historical

Method, it must be admitted, I think, that Sidgwick completely makes out his case against the supposed supersession of Philosophy by History or Sociology. The determination of the ultimate End or *summum bonum*, and with that the establishment of ethical or political science, its vindication and definition, certainly belong to metaphysics and the theory of knowledge. No study of a series of facts in the past will supply us with the ethical point of view or dispense us from passing a direct judgment upon present beliefs and practices in accordance with the ideal of truth and goodness which we at present possess. But when the existence of ethical judgments at all has been explained and justified, it is perhaps well to remember that Sidgwick's argument does not suggest—though he himself would probably not have denied—the really transforming and vitalising effect of the historical method upon the specific content of the science. Any reader of the present volume who is in danger of forgetting this could not do better than read the two powerful articles on 'The Evolutionary Method as Applied to Morality' contributed by Prof. Dewey to the *Philosophical Review* during the past year, in which this function of history is convincingly vindicated.

A. SETH PRINGLE-PATTISON.

Personal Idealism: Philosophical Essays by Eight Members of the University of Oxford. Edited by HENRY STURT. London and New York: Macmillan, 1902. 8vo, pp. ix., 393. Price 10s.

THE eight authors of this refreshing volume are yecept Stout, Schiller, Gibson, Underhill, Marett, Sturt, Bussell and Rashdall. I call their book refreshing, first, because 'hand-work,' always a cheerful sight, is peculiarly so in a field like that of philosophy where men are usually more given to stickling for their differences than for their points of union; second, because the style of most of the essayists is unconventional and enthusiastic—sometimes frolicsome even; and finally because the philosophy which the writers profess is a sort of breaking of the ice, and seems to promise a new channel where formerly the only pathways were Naturalism's desert on the one hand, and the barren summits of the Absolute on the other. Here we have Naturalism's concreteness without its lowness, and Absolutism's elevation without its abstractness, for human purposes, of result. The human person, according to these writers, shows itself, if we take it completely and empirically enough, to be a force irreducible to lower terms, and an origin both of theoretic perspectives and of consequences in the way of outward fact. "The current antithesis," says the editor, "between a spiritual philosophy and empiricism is thoroughly mischievous. If personal life be what is best known and closest to us surely the study of common experience will

prove it so. 'Empirical idealism' is still regarded as something of a paradox; I should like to see it regarded as a truism."

A re-anthropomorphised Universe is the general outcome of this philosophy, which on the whole continues Lotze, Sigwart, and Renouvier's line of thinking, although it is so much more radically experiential in tone. Being so experiential, it has to be unacademic, informal and fragmentary; and this, from the point of view of making converts, is a bad practical defect. What we need now in English, it seems to me, is a more commanding and all-round statement in classic style and generalised terms of the personal idealism which these authors represent. Mr. Schiller might compass it, if he would tone down a little the exuberance of his polemic wit—meanwhile we have these trial bricks, set in at separate points.

Mr. Stout's contribution is a subtle paper on "Error," in which the personal idealism is less prominent than in the other essays. "It is essential to the possibility of error that both the real being and its unreal qualification must be present to consciousness," says Mr. Stout; and he conveniently calls the real being, so far as it is present, the 'intent,' while he calls the qualification (whether true or untrue) the 'content' of the consciousness in question. The most interesting results of this distinction are certain developments of Mr. Stout's well-known conceptualism. By inadvertence or confusion, he says, we may think of a different object from that which we are really interested in knowing and consequently really 'intend'; and we may as a result qualify our intent wrongly. In empirical matter error is in this way always possible, but not so when we intend abstract objects as such. 'Whiteness as such,' for example, is a direct creature of our intent. We can tell by inspection whether its nature is or is not independent of such an attribute as triangularity. In so experimenting on our mental object we are active; but only in order that we may passively record the final result. This latter is true certainly and necessarily, for no other reality can have been intended than that on which the mental experiment was made. Thus there are limits set to the possibility of error wherever the whole object of our intent is unequivocally present to the mind. Mr. Stout makes application of this to Mathematical truth, and uses it to refute Bradley's dictum that all knowledge of 'Appearance' is infected with error.

Mr. Schiller's paper on 'Axioms as Postulates' is a radical one indeed. Starting from the fact that the world as we know it is a gradual construction reached by successive trial, the Author denies that even 'in itself' it is a datum ready-made. It takes its whole form from our successive experiments in shaping it. There is indeed a resisting factor, but the Aristotelian $\epsilon\lambda\gamma$ is the best way in which to conceive of this. 'It is; but it *is* only what is made of it;' and we must conceive it as the funded accumulation of successful plastic operations performed by striving beings

of which we ourselves are the last to come. Slowly but surely, the world is forming itself according to demand. Mr. Schiller applies this evolutionary conception to mental categories as well as to physical facts, and boldly takes, as an example whereby to test his theory, the principle of identity itself. We postulated it because we needed it, and its 'truth' grew by the successful use we made of it. Practical activity came first and theoretic reason was secondary. Abstract identity, never found, had to be made as an ideal, and facts then found which ministered to it. Nature conduced our audacity.

"Human nature is thus the sole key to nature which we possess, and if it will not unlock the Arcana, we must resign ourselves to sceptical despair. . . . Hence the anthropomorphisation of the world is itself a legitimate postulate. . . . We never find out 'what a thing really is' by asking 'what it was in the beginning'. . . . What it is appears from what it *does*, and so we must study its whole career. We study its past to forecast its future, and to find out what it is really 'driving at'. Complete explanation therefore is by final causes, and implies a knowledge of ends and aims,"—among which are our own. Pure intellectualism is insufficient—philosophy is partly thought and partly deed.

The next paper is one on 'The Problem of Freedom,' by W. R. Boyce Gibson. The most important thing in this paper, it seems to me, is the distinction which its author makes between the two types of Psychology, the inductive type, which describes things from without, and the direct type which puts itself at the subject's or 'experient's' point of view. When we describe a mental phenomenon by its general 'conditions,' we methodically place ourselves outside of the inner attitude of the subject to whom the phenomenon belongs. The core of its individuality, as it exists in him, is the sense which it gives him then and there of tending to the fulfilment or non-fulfilment of some interest by which he is possessed. In this consciousness of furthering or being checked we seem to have the original of our ideas of activity and cause. To realise conscious facts in this way is to vitalise our theories about them. We de-vitalise psychology on the other hand, when we explain inner states by objective categories, whether of association or of brain-process, with the causal energy which they carry in them left out of our account. Psychology *need* in no way be guilty of this usual omission, for the active inwardness can be told-about and described as well as any other feature of the process, and treated moreover in our cosmic theories as a real cause. This sense of prosperous immanent activity in the individual moment of experience is what we mean by freedom, and according to Mr. Gibson, as I understand him, indeterminism of the future is not essential to the idea.

Of the next paper, 'The Limits of Evolution,' by G. E. Underhill, I find it less easy to give a summary account. It seems

in part to traverse Mr. Schiller's notion that everything may be considered as 'evolved,' for it insists that original data, laws, and relations must be presupposed in every evolutionary account. Moreover it ends by an assimilation of Darwinism to Aristotle's conception of final cause, and thus, at least by implication, makes teleology universalistic, whilst I understand most of the other essayists to admit, at any rate as a possibility, that the general teleology displayed by the universe may be a resultant of the several 'purposive impulses,' exhibited by its parts.

In Mr. R. R. Marett's important Essay 'Origin and Validity in Ethics,' we again meet with the distinction which Mr. Gibson drew. We can explain a moral judgment by the conditions under which it comes to be made, in other words by its 'origin'; or we can take the immediate feeling of 'validity' in it by which the subject of it is possessed. Both points of view are essential for completely understanding a given moral judgment. The more refined and spiritual senses of validity arise, according to the current evolutionism, as 'by-products' of preferences originally ministerial to biological need. Mr. Marett tries to show that, whatever their origin may be, they tend to become independent ethical forces, and in many cases to supersede the more animal preferences in which they are supposed to arise. They have so far *not* interfered with survival, and *prima facie* are as valid biologically as anything else. Nevertheless the two orders of judgment are connected with each other, and he who considers the more animally useful promptings alone may fall into an opportunism as coarse as the Quixotism is extravagant by which the devotee of purely spiritual validities may be swayed. Moreover those who use considerations of origin to criticise feelings of validity by, must in the end appeal to validities somewhere accepted by themselves, and the upshot of the whole discussion, characterised, it seems to me, by a very concrete sentiment of moral reality, is to vindicate the essentially tentative and experimental character of the whole ethical sphere of life. Standards as well as acts are established '*experiendo*,' the author seems to affirm.

Mr. Sturt's paper, 'Art and Personality,' is a well-written attempt to show that 'Art' as a personal activity in the artist is normally inspired by an enthusiastic objective interest in what expresses or seems to express aspects of personal character in man. This interest is not derived from other interests; and the validity of our artistic judgments cannot be based on any principles elsewhere derived. In the last resort the 'good' in art is what men individually so pronounce, though an individual's taste may be called abnormal if it contradicts a general consensus the other way.

Mr. F. W. Bussell, in 'The Future of Ethics: Effort or Abstinence?' makes a weighty plea for the former alternative which, as the Judæo-Christian ideal, he contrasts with the

quietism and renunciation preferred by Greek naturalism and by Oriental pantheistic thought. In his emphasis upon the 'single life,' as against the requirements of a universal principle, he, like Mr. Marett, seems to show a sense for ethical reality. He reinstates personality, and makes of history a reality and no 'appearance'; and leaves the individual a co-creator, by his acts, of the collective order upon the possibility of which he casts his faith—at least so I interpret Mr. Marett's conclusions.

The final essay of the book, 'Personality: Human and Divine,' by Mr. Rashdall, has for its purpose to defend, against 'the Absolute,' the notion of an individual personal God who may conceivably be finite, and whose relation to created persons may not be that of includer to included. The Absolute, if we are to talk of such a thing at all, can only be the totality of Reality, the community of Persons, one of whom is God.

Such is the abbreviated indication of the contents of a work rich in style and exceptionally rich in ideas. I add no criticism—although I think that every essay calls for some objection of detail—because I think that the important thing to recognise is that we have here a distinct new departure in contemporary thought, the combination, namely, of a teleological and spiritual inspiration with the same kind of conviction that the particulars of experience constitute the stronghold of reality as has usually characterised the materialistic type of mind. If empiricism is to be radical it must indeed admit the concrete data of experience in their full completeness. The only fully complete concrete data are, however, the successive moments of our own several histories, taken with their subjective personal aspect, as well as with their 'objective' deliverance or 'content'. After the analogy of these moments of experiences must all complete reality be conceived. Radical empiricism thus leads to the assumption of a collectivism of personal lives (which may be of any grade of complication, and superhuman or infrahuman as well as human), variously cognitive of each other, variously conative and impulsive, genuinely evolving and changing by effort and trial, and by their interaction and cumulative achievements making up the world. Beginnings of a sincere Empirical Evolutionism like this have been made already—I need only point to Fechner, Lotze, Paulsen, C. S. Peirce (in the *Monist*), and to a certain extent to Wundt and Royce. But most of these authors spoil the scheme entirely by the arbitrary way in which they clap on to it an absolute monism with which it has nothing to do. Mr. Schiller, in his *Riddles of the Sphinx*, and more acutely still in various essays, has given to it a more consistent form. It is to be hoped that the publication of the present volume will give it a more mature self-consciousness, and that a systematic all-round statement of it may ere long appear. I know of no more urgent philosophic desideratum at the present day.

WILLIAM JAMES.

The Origin and Significance of Hegel's Logic: A General Introduction to Hegel's System. By J. B. BAILLIE, B.A. (Camb.), D.Phil. (Edin.), Lecturer in Philosophy at University College, Dundee. London: Macmillan and Co., Limited. New York: The Macmillan Company, 1901.

THE two titles of this book characterise exactly the nature of its contents. We have in it a careful, conscientious study of the *Logic* of Hegel in its various phases of development, and an attempt to give an unprejudiced estimate of its permanent value. Three stages are recognised in the growth of Hegel's views of logic. The first extends from 1797 to 1800. Logic is here sharply differentiated from Metaphysics, but no consistent satisfactory account can be given of its function, because of the uncritical and tentative character of Hegel's system of philosophy at that time. During this period his interest was rather in religion than in philosophy. The change that came about in Hegel's attitude at the close of this period is "best described by saying that whereas formerly he had a religious interest in the object of philosophy, he has now a purely philosophical interest in the object of religion, the object in both cases being ultimately the same" (p. 60), *viz.* absolute reality. The second period (1800-1807) netted for Hegel as its results: "(1) the more complete grasp of his fundamental philosophical principle," that the Absolute is Mind; "(2) the ascertainment of the nature and procedure of the instrument of philosophising," which consists of a synthesis of reflexion and intuition (*Anschauung*); "(3) the closer approximation of Logic to Metaphysic, through the assimilation of their content; (4) the naming of the method to be employed in constructing a system," *viz.* the method of Development (p. 89).

"In order to understand the line of development which leads Hegel to the position which he finally adopts, and the reason which induced him to alter the views which he held during the period we have just reviewed," *i.e.*, the second period, "we must bear in mind the demands which from the first he expected philosophy to satisfy. These were that it should be the complete exposition of the knowledge of the Absolute, that the system of such knowledge should be determined by the inner connexion of its content, and that the nature of the Absolute should be shown to be Mind, Spirit (*Geist*). These are for Hegel simply assumptions, fundamental positions which must be held by those who would fulfil the task of philosophy. He does not seek to *prove* them at the outset; rather he takes the only possible proof of them to be the actual realisation of them by philosophy" (p. 119).

The exhibition of the Absolute as Mind is given in the *Phenomenology of Mind*. The Absolute as Mind "means that Mind is to embrace its object. It is not to exclude it (that would be Dualism); nor to negate it (that would be Solipsism); nor to be on a

level with it (that would be the Indifferentism of Schelling); it is to contain it in itself. This alone is Idealism. Now it was mainly to solve this problem and establish that position that Hegel wrote the *Phenomenology of Mind*. Such being the general nature of the problem which he has to solve, it is not difficult to see that to accomplish his purpose the inquiry will conveniently fall into two parts. In one part he will be exclusively engaged in showing that Mind, when and wherever we find it in relation to an object, is actually 'higher than' its object. . . . In such an inquiry there will be no need to confine attention to any one form under which this relation exists. Any and every form will have to be considered" (p. 140). "The further and second question is, What amount or degree of truth does each possess, what degree of intimacy is expressed by any given relation, how far does the object dealt with at any point realise or express the essential nature of mind, how far is the mind in dealing with the object explicitly aware of itself as being *in* its object, as being at one with it as well as its own self?" (p. 143). "Hence the inquiry is a historical analysis or analytical history of the kinds of truth of which the mind is capable;" or again, it "may be named a Constructive History of the forms of Experience"; or once more it "can be looked at as a Philosophical History of Consciousness"; or finally "as a Transcendental Psychology. All these various expressions merely indicate different aspects of exactly the same problem" (p. 145).

"Only one method of proof was open to him. For he held, on the one hand, that his own view was the absolutely true, and on the other hand, that the views of others were likewise true, but imperfect. His proof, therefore, had to reconcile both of these positions. And this was only possible by showing that the truth the other views contained was true by being a form or expression of his own, and was imperfect. . . . And on the other side he had to show that his own view actually and explicitly expressed the truth implied in the other imperfect views" (p. 150). The result is that "the only and complete content of philosophy will be the whole diversity of experience, which alone reveals, and where alone is found, the meaning and content of that Absolute which is the only object of philosophy". "Not merely does he [Hegel] maintain and preserve all finitude through and *by means of* the Absolute. The tendency of this new view even seems to be to do full justice to them *at the expense of* the Absolute itself" (p. 152). It is difficult to see how Dr. Baillie would reconcile this statement with the criticism he passes upon Hegel for "the elimination of the individual in the construction of the System" (p. 358). It would be worth while, had we space at our disposal, to examine this criticism in detail. It seems to be based upon a misinterpretation of Hegel's statement that the individual simply "looks on". Hegel does not thereby deny that the activity of the individual determines the philosophical result,

but merely denies that any *prejudice* or *caprice* of the philosopher interferes with his accurately stating the objective processes of the manifestation of the Absolute. Whether this denial is tenable or not we cannot here inquire; but at any rate the denial has not the reach that Dr. Baillie attributes to it.

The problem of the *Phenomenology* being to do justice to all concrete experiences, no sooner is it solved "than another problem will present itself for solution, a problem already implicit in the *Phenomenology* all along, but only becoming prominent at the end of that inquiry. If the unity of subject and object is the one essential reality in all experience, and if the modes of this unity are just the modes of experience, then does not the problem suggest itself to state in systematic connectedness the inner identities as such, the modes of unity *quâ* unity, which have been the ground reality throughout the whole of the *Phenomenology*? We have these various concrete relations of subject and object in experience; can we not proceed further to extract or abstract the inner kernel of ultimate truth exhibited and preserved by all the several moments of experience, by each relation of subject to object, and constituting it a necessary pulse in the life of the Absolute? There is in every mode such a vital essence, namely, the identity or unity, which is the ground of the connexion of subject and object in each case. And each such unity will be a specific truth, the ultimate truth, namely, of each mode. The complete system of such unities will of course cover the same area as that of the *Phenomenology*, namely, the whole of experience, the content of the Absolute. The only difference will be that whereas in the *Phenomenology* we have the concrete, actual embodiment of experience, in the other inquiry we shall have nothing else but the abstract, 'formal,' conceptual, 'pure' essentialities stripped of all direct reference to the diversity and tangibility of existent experiences, and expressed and connected in the form determined by their own character. The content of this new science being the inner reality of each mode of experience, and this inner reality being, as we saw, the principle of connexion of the various modes, it is further evident that the method which this new science will follow will be none other than that of the *Phenomenology* itself; it needs no other, and it can find none other. The only difference will be that the method will in this new science be exhibited in its ultimate and purest form; for here it is operating with and through a content which is itself 'simple' and 'pure'. But what else can this new science be but just what has been hitherto known as Logic? It will appear, and is indeed evident, that these vital essences can only be thoughts, notions as such; and these have been, and are always, the matter of Logic" (pp. 155-157).

In this passage we have a very clear statement of the relation of the *Phenomenology* and the *Logic*, and one that is borne out by a close study of these two works. The statement could hardly be

improved and gives a key to the problem of the nature of the categories treated by Hegel in his *Logic*.

In chapters vi. and vii., the important questions raised by the *Phenomenology* are treated in considerable detail and with Dr. Baillie's characteristic directness and intelligibility. Such questions are those concerning the method of procedure, the origin and nature of absolute knowledge, its content and its relation to other forms of experience. The point, elaborated in this discussion, that absolute knowledge is not omniscience, and is nothing but the knowledge by mind of mind's own principles of operation, is one that needs always be kept in view by readers of Hegel. A thorough appreciation by writers on Hegel of this significance which Hegel gives to the term 'absolute knowledge,' would have very sensibly diminished Helegian bibliography.

Merely passing reference can be made here to the excellent treatment of the notions of the *Logic* as at once concrete and abstract, as ideal and yet as real. We must hasten on to chapter ix. on the "Origin and Nature of the Method of the *Logic*". "The fundamental characteristic of the Method of the *Logic* is its necessary and essential identity with the content" (p. 256). "It is not difficult to see what is meant by this identity of content with method. In the *Phenomenology* it was established that mind was the determining principle in experience as a whole, and in each part of it. Experience, as it appears, is the unfolding of the actual life of Spirit in all its manifold forms. Now not merely in each form, and not merely, again, in the whole was mind present, but itself determined the process from stage to stage, itself made the transition from form to form, and *was that transition* as much as the forms into which it passed. But if so, then since the content of the 'System of Experience' was constituted by Mind, the connexion between its parts which made the system possible is similarly constituted. In other words, the *Phenomenology* is self-constructed and self-determined. It is one and the same mind which fashions the many expressions of experience into a single connected context, and which owns them as its experience. There is, therefore, no separation between the matter of the system and its mode of constitution. But it is clear from this that the method of construction must likewise pervade each part of the system as a part" (p. 257). There is therefore only one method from beginning to end, and this is true not only of the *Phenomenology* but of the *Logic*, for in both the method is the same (p. 261). This "*method is simply the inner activity of Mind itself*" (p. 259). The much discussed "transition" in the *Logic* "is the manner in which the moments of ultimate truth are built into the structure of Absolute Knowledge" (p. 262). "The truth which is the whole is not something over and above the truths of experience; it is simply the latter in their unity. The only way to construct the system of such notions is to show their essential connexion as expressions of one and the same mind, which both is the specific

notions as such, and itself is the movement from one to another. And this is done when the notions 'pass into' one another" (pp. 265 and 266). But "how exactly is the process brought about? What starts the movement? There is only one answer—the existence of opposition, discord, contradiction. All change, we may say, generally is due to disturbance of equilibrium within a given whole. . . . It is so in all concrete human experience. . . . Hence the antithesis between the fulness of its [mind's] completed life, and the insufficiency of any one special mode of it, both creates other modes in which it must realise itself and compels it to pass from a less sufficient to a more complete form of experience. This opposition, which operates perpetually throughout concrete experience, and is absolutely necessary to it . . . is the motive force which initiates and maintains the process of experience, and produces the continual conversion of conscious attitude (*Umkehrung*) which appears throughout it. And the process in Logic is similarly constituted" (pp. 266, 267). But this diversity of experience in the midst of its identity, this plurality in the bosom of unity, is what is meant by "negation" (p. 272). "Identity only has significance, only *is* by being set against difference; and difference has no meaning except in opposition to an identity. . . . to be *conscious* of self necessitates distinction, while to be conscious of *self* asserts an identity throughout the whole process" (p. 272). Hence "the method from first to last is at once synthetic and analytic; the difference between the moments is one of emphasis only. In the first negation we establish more directly by analysis of the original identity, a diversity implied in it. In the second we insist more particularly on the synthesis of the elements ostensibly opposed, and bring out their unity" (p. 276).

Dr. Baillie thinks that the term "'Dialectic' can hardly be said to exhaust the meaning of the method," because "the beginning is established by the method, and the beginning is not itself a negative"; because "the negative is only one aspect of the content; every notion is likewise positive"; and because "the process as a whole is a development, and a development is at least as much positive as negative" (p. 286). This criticism of the term by which Hegel generally preferred to characterise his method is valid only if the term is taken more narrowly than Hegel took it. For Hegel dialectic was *das Fassen des Entgegengesetzten in seiner Einheit* (*Werke*, Zweite Auf., iii., 42). The recognition of opposition and contrariety did not exhaust the function of Hegel's dialectic. This he regarded Kant's mistake in his conception of dialectic. Kant held fast by the abstractly negative side of the dialectic and in consequence reached the curious result that reason is not capable of knowing the rational (*Werke*, iii., 41, 42). Hegel objected strenuously to this conclusion, and denied the premiss on which it rests, namely, that dialectic is merely negative. Dr. Baillie takes dialectic to be

the recognition of differences, and objects to Hegel's calling his method dialectical, because that method involves the recognition of identity as well. Dr. Baillie is true to Hegel's thought; he is not true here to Hegel's terminology.

The Notes on "Contradiction" and "Development," appended to this chapter, are very clever pieces of exposition and argument, although one may not be willing to accept the statements in all points. The chapter on the "Relation of Logic to Nature" seems to solve a difficulty of long standing in the comprehension of Hegel's system.

The last chapter, "Criticism," shows that the expositor is also an able critic. Into the various objections he makes we cannot enter here. Some of them are without doubt well taken. Others seem to get their plausibility from overstraining isolated expressions. But these latter are not important, and the critic recognises this when he says that they do not "seriously damage the real value of Hegel's general position, or of the Logic in particular" (p. 363). "We shall find," if we look at the subject in the fuller light of Hegel's larger meaning, "that most of the objections urged against it above cease to hold, while at the same time much of his System as it stands can be accepted as tenable" (pp. 367, 368).

The book will not be altogether easy reading to a novice in the study of Hegel's philosophy; but it will be easier reading than Hegel's own works, as most expositions of Hegel have not proved to be. Like all really helpful and useful commentaries, it must be read along with the works commented on, and thus read it will prove to be not a keeping but a disclosing of "the Secret of Hegel". And even to one who has not had time or inclination to read the *Obscure Philosopher par excellence* of modern times, a careful study of this *General Introduction to Hegel's System* will show the nature and importance of Hegel's problem, the spirit in which he attacked it, and the partial success of his solution. Dr. Baillie's work cannot be too highly praised.

EVANDER BRADLEY MCGILVARY.

Mind in Evolution. By L. T. HOBHOUSE. London: Macmillan, 1901.

NOTWITHSTANDING some real divergence of opinion, and a much greater amount of apparent divergence due to differences in the usage of terms, there is a growing consensus of opinion among students of comparative psychology as to the main trend of mental development in animals and man. This is in part the outcome of a more careful, cautious and critical treatment of the recorded evidence, and in part the result of the application of the experimental method together with the appreciation of the fact that, if it is to afford data from which valid conclusions may be drawn, animal behaviour must be studied in the spirit of serious investigation.

Those who enter on the discussion of the subject in this spirit have to trace, so far as the conditions permit, a continuous process of mental evolution, and have also to distinguish and name the successive stadia through which this evolution passes. By some emphasis will be laid on the continuity of the several stages; by others on their differentiation. And the incidence of this emphasis will be reflected in the use of technical terms. The germinal and embryonic stages of abstraction and generalisation, for example, may be reasonably inferred from the behaviour of animals low down in the scale of mental progress. It is not unnatural therefore that, where continuity of process is in the focus of thought, the terms "generalisation" and "abstraction" should be employed with the widest possible range of significance so as to comprise both the embryonic and the fully developed phases along a specific line of psychogenesis. But on the other hand it is not unnatural that, when the differentiation of the stages is in the focus of thought, these terms should be severally restricted to the highest distinguishable phase of development—that at which the process in question reaches maturity. If the progress of thought depends now upon the perception of similarity amid diversities of manifestation, and now upon the distinction of delicate shades of difference, it is inevitable that the preponderance of the one or the other tendency should leave its impress on the language in which that thought is expressed. And where a writer is addressing not only the inner circle of experts but a wider audience of cultured folk, he has to consider the commonly accepted implications of the words he uses and, bearing in mind the fact that even the cultured reader will be more under the sway of these common implications than of the author's most careful definitions, he has to select that usage which will offer the least resistance to the general acceptance of his meaning, and best subserve further progress.

Mr. L. T. Hobhouse in his valuable work on *Mind in Evolution* distinguishes five stages of correlation in the course of what he terms "Orthogenic Evolution". This he defines as evolution "upwards," assuming at the outset, and contending throughout the work, that it is identical with the evolution of mind or of the conditions which make mind possible. "Doliogenic evolution," as contrasted with orthogenic, is "the growth of any other qualities whatever that assist survival". It must be remembered that Eimer (*Verh. der Deutsch. Zool. Gesell.*, 1895) uses the terms "orthogenic" and "orthogenesis" for evolution through use-inheritance and the organic transmission of acquired characters, and therefore on the one hand with implications which Mr. Hobhouse's usage does not carry and on the other without the implications which his definition suggests. Dealing broadly with the adaptation of human and animal action to the requirements of life and growth, and using the term "adaptation" so as to include both racial adaptation, by means of natural selection or otherwise (to which it has been suggested that the term should be restricted),

and individual accommodation through modification of structure in the course of the life and growth of the organism, he finds that it involves "a certain correlation, to put it in the most general terms possible, between the experiences and the actions of the individual and of the race". The word "correlation" being thus used in a comprehensive sense, neither in its technical application in psychology nor with its biological implication, five stages are distinguished. The first, which stands in a category by itself, is named the *Pre-intelligent Stage* where response to stimulus is the outcome of inherited structure, where the correlation is not achieved within the experience of any individual, and where adaptation is confined within narrow limits. This stage, in Mr. Hobhouse's interpretation, only falls within the scope of orthogenic evolution, as defined, in so far as the conditions which make mind possible are then established. Instinctive reactions are its culminating products. Their nature and character, the co-operation, in their higher developments, of internal disposition—some form of craving or *stimmung*—with external stimuli to reflex action, and the criteria by which they may be differentiated from intelligent actions, are well brought out in the chapter on *Instinct* to which almost the only exception that can be taken is that Mr. Hobhouse in one passage seems to raise it to the power of a quasi-metaphysical faculty, when he says that the business of instinct is precisely to shape adaptable reflexes aright.

In placing instinct entirely in a stage termed Pre-intelligent, it would seem, however, that the co-operation of intelligence in the genesis of some instincts is excluded. It is true that Mr. Hobhouse clearly notes the practical difficulty of disentangling the factors in some forms of behaviour. "Intelligence," he says, "arises within the sphere of instinct; indeed, we can draw no sharp and certain line between them [as they occur] in nature. Yet in idea they are quite distinct. In so far as an act is instinctive, it is not intelligent, and conversely." But this does not preclude the origin of some instincts through lapsed intelligence. As used by Lewes and Romanes, the phrase "lapsed intelligence" carried with it a Lamarckian implication based on the direct inheritance of the intelligent modification as an instinctive congenital character. But it has recently been shown that (on the hypothesis that Prof. Mark Baldwin has termed Organic Selection) congenital instincts may arise along the same lines that have been marked out by persistent accommodation to oft-recurring circumstances through the exercise of intelligence; so that the origin of some instincts through "lapsed intelligence" may now be accepted without the Lamarckian implication of the inheritance of acquired characters.

Still, broadly considered, it remains true that within the sphere of instinct, but not directly from instinct, intelligence is developed, and that its development opens out new lines of progress. In the second of the two main categories, which Mr. Hobhouse distinguishes, the correlation is based on individual experience.

Under this head fall four stages of correlation: (1) that of unconscious readjustment; (2) that of concrete experience and the practical judgment; (3) that of conceptual thinking and will; and (4) that of rational system. In common with Prof. Wundt and Dr. Stout among psychologists, and with such students of animal life as Dr. Thorndike and Mr. Kinnaman, the author reaches the conclusion (to which we believe both Romanes and St. George Mivart, notwithstanding wide divergence of expression, would have subscribed) that "the highest animals have as much capacity for dealing with the practical exigencies of their surroundings as can be attained by an intelligence limited in its scope to the concrete and the practical". No doubt there may be some, perhaps much, difference of opinion as to what is psychologically involved in this limitation to the concrete and the practical as distinguished from the abstract and the intellectual. But quite apart from any discussion as to the psychological status of the higher animals the difference between what Dr. Stout calls the perceptual and the conceptual planes of mental development is so well marked and so important as to justify their being placed in separate categories. We should therefore advocate three, instead of two, main divisions: I. The instinctive; II. The intelligent or perceptual; and III. the rational, intellectual or conceptual. Of these the second would be subdivided by Mr. Hobbouse into (a) the stage of unconscious readjustment and (b) that of concrete experience and the practical judgment. Whether *unconscious* readjustment is a satisfactory designation for the modification of response to stimulus as a consequence of the *pleasure or pain* immediately resulting, is questionable; but the implication is that there is no consciousness of the purpose or end of the modification. The chick that avoids cinnabar caterpillars as the result of experience, Dahl's spider which ceased to spring upon flies soaked in turpentine, and Möbius's pike of the sore nose, afford simple examples of the genesis of elementary experience through the subconscious correlation of sensory data. But how difficult it is to describe such rudimentary cases of the development of a conscious situation without using phrases which overstep the limits of legitimate inference. Möbius's pike, after dashing itself for three months against a glass partition in the attempt to get at some minnows, became, we are told, "at last so persuaded of the danger of attacking them that, when the partition was removed, it left them quite unmolested".

The transition from this stage to the next rests on the growth of experience in clearness and comprehensiveness. "In the primitive experience, the feeling modifies the sensation which it follows. Let the consciousness be extended so that sensation and feeling may be apprehended together while yet remaining distinct, and the content sensation-giving-place-to-feeling comes into being. This is the germ of the higher stage." "Psychologically, the new departure which has taken place in this stage is that the related

term which in the previous stage merely influences action, is now brought explicitly into consciousness." "We may describe the increased complexity by describing this stage as the correlation of relations, the one set being perceptual, the other practical. Both are essentially concrete, that is to say, we deal in this stage not with the relation as such but with two or more related objects of experience." The only point upon which I am not clear in these and some other passages is the statement that the related term is brought explicitly into consciousness. So many passages, like the last above quoted, state with much emphasis that the relations are only implicit in the concrete experience as a whole, and that it is in this sense only that relations can be said to be perceived by animals, that when we are told that their behaviour is in many cases determined by the relation between itself and the end to be gained we may take it that the author's view is that the animal does not make explicit and focal to consciousness the relation as such between means to be employed and end to be attained, and that there is nothing of the nature of intentional correlation. If this justly expresses his opinion I am in complete agreement with the spirit of his interpretation and do not think that anything I have written conflicts in spirit with his own conclusions.

Mr. Hobhouse has not been content to rely on second-hand information concerning the behaviour of animals. He has conducted careful and well-devised experiments to test the mental capacity of dogs, cats, a seal, an elephant, and two monkeys, a Rhesus and a chimpanzee. Did space permit these latter might be profitably compared with those of Dr. Thorndike and Mr. Kinnaman. On the whole, making due allowance for the personal equation, the results of taking the monkey into the psychological laboratory are remarkably concordant. And Mr. Hobhouse would agree with Mr. Kinnaman's statement that: "In these experiments, as in Dr. Thorndike's, there appeared no case that could be interpreted as reasoning in the higher senses of that term". Animal behaviour, when submitted to serious investigation, is thus, so far as present inquiry has enabled us to form an opinion, restricted to the practical and the concrete, and is limited to what Dr. Stout calls the perceptual plane. In this general conclusion there is essential agreement. Differences of opinion very largely centre around the use of terms, and modes of stating the common interpretation.

Desirous of laying emphasis on the continuity of mental process Mr. Hobhouse, for example, discusses his stages of correlation in terms of the syllogism. The chick on the basis of yesterday's experience *infers* to-day that the cinnabar caterpillar will, if seized, be nasty, and is therefore to be avoided. "Inference is essentially one function, from the simplest case of the chick, up to the highest elaboration of experience by the human intellect." The first stage of intelligent correlation "is comparable to a syllogism in which

the conclusion only should be an explicit content of consciousness," "the premisses being represented by a certain combination of psychological forces from which the conclusion follows". In the second stage "the process of correlation is comparable to a syllogism in which minor premiss and conclusion are avowed, while the major premiss is suppressed," being "represented by the psychological effect of past experience, which makes the mind draw its inference". The third stage—that of Conceptual Thinking and Will—"is comparable with the completed syllogism with explicit major premiss; and comparing it with the preceding stage, we see that the pervading identity which was there the central feature of the inexplicit 'process' has now passed over into the recognised 'content,' leaving outside those general methods and assumptions of thought by which the universal and all other products of intelligence [intellect] are built up". Finally on the last stage—that of Rational System—we have "the apprehension of the principles and processes underlying thought—the process of thinking made conscious. This is the process implicit in all the preceding stages, and in bringing it into consciousness so that the whole of the 'thought process' now passes into one content, the reasoning of this stage is as a syllogism in which the assumption involved in syllogising should be taken into account."

How far this syllogistic treatment of the whole range of mental process from the little-differentiated embryo to the mature logical form is helpful, and how far it is likely to lead to misconceptions, must be a matter of opinion. Bearing in mind, as I have already said, the fact that even the cultured reader will be more under the sway of the commonly accepted implications of logical terms than of the author's most carefully guarded definitions, my opinion is that the danger of misconception outweighs the advantage due to unity of treatment. Logic as a normative science belongs especially to the last stage. It deals with the apprehension of the principles and processes underlying systematic thought and formulates ideal standards and tests of correct thinking. For logic, major premiss and conclusion, generalisation and inference, are correlative terms; each implies and is dependent on the other; without the other each, as such, is non-existent. For those to whom this conception has become part of their mental furniture, the statement that for Möbius's pike any sort of "conclusion" is an "explicit content of consciousness," the premisses being represented by "a certain combination of psychological forces from which the conclusion follows," involves an uncomfortable sense of nightmare. One has to reorganise one's conceptions on a new basis. And freely as one admits that an author may, within limits, frame his own definitions of the terms he employs, one may question whether he can reasonably expect his readers to remodel their thought to suit his convenience, or has cause for complaint if his real position is misunderstood.

But I would not take leave of Mr. Hobhouse in a spirit of disagreement with his work. It is a good honest and straightforward work, full of careful analysis and well-digested synthesis. It will well repay reading and re-reading; for there are many good points, well taken and well put. And, certain modes of statement apart concerning which there may be differences of opinion, its conclusions are in my judgment sound at the core.

C. LLOYD MORGAN.

Psychology Normal and Morbid. By CHARLES A. MERCIER.
Swan Sonnenschein & Co., 1901. Pp. 512. Price 15s.

OF the general aim of this book every psychologist will heartily approve. Dr. Mercier tells us that his purpose is to deal with normal psychological processes in the way that shall be most helpful to students of the abnormal, because "Insanity is no exception to the rule which requires a knowledge of the normal as an indispensable preliminary to a knowledge of the abnormal". He tells us also that "The reason why the contrary opinion has been maintained with such vigour, and the contrary practice so generally followed, has seemed to me to be the absence of any work in which normal psychological processes are dealt with from the point of view and for the purposes of the alienist". We may be allowed to question the sufficiency of this reason for the unsatisfactory state of the study of insanity in this country, and to believe that its causes are less simple and somewhat deeper lying and that a complete remedy will hardly be effected by the publication of this book, admirable though it is in design and in execution. There are those who believe that the only way by which improvement can be brought about is by some change of system that shall make it worth the while of a considerable number of medical men to become thorough students of psychology both normal and morbid, and that the most important step towards this end would be the institution of a diploma in psychiatry by some body of the highest academic standing, such as the University of London. The way in which such a diploma may be expected to effect this much-needed reform cannot be set forth here, and it must suffice to point to the very great improvement in the study of sanitation that has resulted of late years from the institution of the Diploma of Public Health.

This book gives us the mature reflexions of an able and independent thinker upon an immense range of subjects treated under the headings Sensation, Thought, Volition, Memory, Pleasure and Pain, Subject-consciousness. Although, as we have seen, it is designed to remedy the scanty psychology of the average alienist of this country, it may also be regarded as a symptom of the unsatisfactory state of psychological study in general. The present reviewer has heard it said by a very distinguished continental

psychologist that the great need of psychology is to get rid of the big books. This may seem a hard saying, but the truth implied is that what is most needed is not the expression of the opinions of every thinker of any originality on all the problems of psychology, but rather the close and detailed study of narrowly defined problems by individual workers; that the definite and final establishment of one grain of psychological truth is a more desirable product of years of strenuous labour than a large volume filled with the reflexions and opinions upon a great range of topics of an author, no matter how able he may be.

The treatment of 'Sensation' is naturally brief. The section on Thought makes up nearly half the volume. Of this section the most valuable part is that which treats of delusion, which is defined as 'the spontaneous alteration of the cohesion of a relation without the aid of experience'. It is laid down that 'alteration and exaggeration of emotion precedes delusion,' and the interesting suggestion is made that the underlying structural change is of the nature of a 'parasitic mechanism' and may come about 'by the independent and quasi-parasitic formation of nervous connexions, which may take place during sleep, and which are not necessarily attended by any mode of consciousness.' A classification or scale of delusions, according to the degree of departure from the normal, is suggested and should be of practical value to the alienist. In the earlier part of this section on 'Thought' Dr. Mercier has ont held fast (it may be doubted whether he has grasped) the distinction between logic and psychology and is led into some prolonged discussions that can hardly be regarded as an essential part of the book. It would hardly seem to be necessary at this time of day to slay again the syllogism as a normal reasoning process and to investigate the mortality of Socrates once more. We may agree with Dr. Mercier's statement that the underlying principle of the syllogism and of all axiomatic reasoning is the assimilation of relations, but when he tells us that "It is one of the most curious anomalies of human faculty that Mill should have attributed to the syllogism the establishment of relations of coexistence and non-coexistence" one is tempted to remind him that "there are nine and sixty ways of constructing tribal lays, and every single one of them is right".

The section on 'Volition' begins with a definition of Attention—"with the emission of motion from the highest nerve regions occurs the corresponding mental state of attention"—"When the amount of incoming motion is great in proportion to the amount evoked and emitted upon its reception, then the intensification of the sensation is slight, the awareness of activity is slight, and then the Attention is termed Reflex Attention. When the amount of motion evoked by stimulus is great in proportion to the stimulus, then the intensification of Sensation is great, and the awareness of activity is great, and then this awareness is termed Voluntary Attention." This is in the last degree unsatisfactory; in the first

place, it is not true and, in the second place, if it were true it would be very far from being an adequate definition of reflex and voluntary attention. Having made this false start the section proceeds somewhat chaotically throughout. Volition is defined as 'an exaggerated degree of Attention,' and the author loudly challenges the world to show that there is any 'element in Willing beyond Thinking and Attention to the thought reached'. The author's statements are very far from the truth, for it is a more nearly true general statement that volition and attention vary inversely in degree at any moment, that when attention is at a maximum volition is at a minimum. Every one knows that voluntary or willed attention is but a poor substitute for the spontaneous attention evoked by the interest of the subject-in-hand. All the confusion of this section arises from the fact that the author has failed, like most others, to seize the essence of the willing-process. The answer to his oft-repeated demand for a demonstration of an essential mark of the willing-process has been given perfectly clearly by Dr. Stout in his *Manual of Psychology* and, perhaps, by him only: "In voluntary decision special conations and their ends are first considered in their relation to the total system of tendencies included in the conception of the Self". "It is the conception of the Self as agent which makes the difference." How great a clarification of psychological writings will result when authors, undeterred by the fear of the transcendental Ego, accept and strictly adhere to this definition, theoretically so simple and clear, although in practice the application of it may be difficult in a large group of cases. Dr. Mercier does but follow a too common practice in treating under the head of 'Voluntary Action' all action that is not merely reflex or 'automatic'. But between reflex and voluntary action comes the immense group of conscious actions in which the conception of the Self plays no part as a determining factor. Let such actions be called conations, ideo-motor and sensori-motor actions, but let us reserve the term 'voluntary' for willed action, for action that is in some degree determined by the conception of the Self. At present the usual practice of authors is to treat of willed or voluntary action, properly so called, under the head of 'conduct,' the term voluntary action having been improperly used to cover all kinds of conation above the level of the reflex and the 'automatic'.

There are other instances of unsatisfactory use of language, as when (p. 482) 'Justice' is said to be 'an emotion of late origin,' and on page 357 Honesty and Justice are said to be instincts, while on page 328 we are told that 'Instinct is, on the physical side, an inherited mechanism replete with motion'. So 'Justice' becomes "an inherited mechanism replete with motion".

We are told (pp. 304-306) that at a certain level of animal evolution consciousness comes in as a factor influencing nervous changes, and on other pages occur statements of similar import; but it is not possible to feel certain whether these imply a development of

Dr. Mercier's views since the time when he wrote the *Nervous System and the Mind*, or are merely instances of loose writing.

One other important section calls for criticism, the more because in this instance, as in that of 'voluntary action,' the author does but exaggerate an absurd mode of treatment common to many others. He accepts the perfectly sound Spencerian dictum that pleasurable activities are in general beneficial to the organism while painful processes are harmful; but then, not content with this, he attempts to show that all pleasurable action involves a preponderance of assimilative or anabolic processes, that the pleasure is in fact the direct psychological expression of this preponderance of anabolism. And when any one of the many striking instances to which the rule will obviously not apply occurs to him, he casts about for special explanations. As to the seat of these anabolic processes he is entirely vague, but his general treatment of the subject implies that they occur within the central nervous system if not in other tissues also. What then shall we say of the child that joyously romps until it falls asleep tired out? Here we have perhaps the most intensely and continuously pleasurable form of activity known to us resulting in exhaustion. All physiologists will agree that in the metabolic processes underlying this activity and especially in those of the nervous and muscular systems katabolism vastly preponderates. No doubt the ultimate effect is usually an increased growth of tissues, but this comes later chiefly during the period of unconscious sleep; but even this consequent preponderance of anabolism does not always occur. A child, or indeed an adult, may wear itself thin and overtire its nervous system in pleasurable activities. The fact is that there is no evidence throughout the whole range of physiology that anabolic processes can determine any form of bodily or mental activity, any setting free of energy, and any such result of anabolism in the animal body is in the highest degree improbable.

This treatment of pleasure and pain is but a special instance of a fault that recurs frequently throughout the book. The author, while disclaiming any intention to treat of physiological processes yet frequently uses such phrases as "this is because a mechanism has filled up with motion and discharged itself," or "Sensation corresponds to the reception of motion by the highest nerve regions," or "when motion is impressed upon the animal organism, motion is released from it". All this is ultra-Spencerian. There may be no appreciable degree of error implied in such phrases but the amount of enlightenment conveyed is equally small. And it is surely a fault that, no one could gather from these pages any hint of the very great increase in our knowledge of the anatomy and physiology of the nervous system brought by the last thirty years. In conclusion it must be said that, in spite of these defects, the book has the great merit that in all its parts it is clearly the product of much vigorous and thoroughly independent thinking.

W. McDUGALL.

VIII.—NEW BOOKS.

Philosophy and Life; and other Essays. By J. H. MUIRHEAD, M.A.,
Professor of Mental and Moral Philosophy in the University of
Birmingham. London: Sonnenschein & Co. Pp. 274.

A PREFATORY "Author's Note" states that "of the first series of Essays in this volume, about one-half have already appeared in the *Fortnightly Review* and other journals; . . . they were all written in the first instance as lectures for various more or less popular societies". Their titles are: "Philosophy and Life," "Professor William Wallace" (as man and as thinker), "R. L. Stevenson's Philosophy of Life" (a very striking and suggestive appreciation), "Abstract and Practical Ethics," "What Imperialism Means," "The Science of Poor-law Relief," "Modern Methods of Temperance Reform," "A Liberal Education," "Psychology and Education". The remaining papers—four in number—are philosophical in the technical sense of this word: they are reprinted partly from *MIND* and partly from the *Proceedings of the Aristotelian Society*: "The Place of the Concept in Logical Doctrine," "The Goal of Knowledge," "Hypothesis," "Is Knowledge of Space *a priori*?" They are all interesting and suggestive, full of material for thought and discussion; but we can allow ourselves only a brief comment on the first two of them. The author maintains that there is a sense in which the *concept* is really prior to *judgment*; that "the beginnings of knowledge must be looked for in a concept or form of apprehension which, like the undifferentiated continuum of the psychologist, may be said to contain in itself the possibility of all differences, but to hold them as yet in solution, awaiting the distinguishing, crystallising action of the logical judgment to give them at once a separate place and coherent connexion in the whole" (p. 204). Pursuing this line of thought, he describes the goal of knowledge as "a concept or mode of apprehending the world in which the processes of differentiation and integration have been brought to completion in a fully articulated system of coherent judgments". This use of the term *concept* certainly avoids one difficulty in the doctrine that judgment is the reference of an idea "to Reality"; but, passing from this point, it seems to the present writer that Prof. Muirhead's discussion of the fundamental question to which these lead up suffers from the presence of an unproved and undiscussed assumption. What is the relation of the ideal of knowledge to ultimate reality? In answering this question it is assumed that we are shut up to a choice between two alternatives: the view of Mr. Bradley and Mr. McTaggart, that there is an alien element in Reality which even an Absolute or complete knowledge could never embrace; and the contrary view of T. H. Green and the Master of Balliol, that "a complete knowledge of the conditions of the possibility of an object would be equivalent to the reality of the object". Is the choice only between

agnosticism on the one hand, and, on the other, an attempt to conceive Reality as consisting in "relations of relations of relations of . . . and so on to infinity"? If we suppose that the distinction of Sentience (Hegel's "Immediacy," Mr. Bradley's "Feeling") and Intelligence holds, not only "in psychology" but in reality, of every level of experience, are we merely reviving the Kantian antithesis of Sense and Thought? These questions are at least possible subjects of discussion.

S. H. MELLONE.

The Functional versus the Representational Theory of Knowledge in Locke's Essay. By ADDISON WEBSTER MOORE. University of Chicago Contributions to Philosophy, vol. iii., No. 1. 1902. Pp. 67.

There is a fundamental paradox about knowledge which consists in the fact that in proportion as it becomes practically more reliable it grows theoretically more doubtful. And so we finally have the philosopher, e.g., Mr. Bradley, mournfully deciding that unless we can know everything we can really know nothing, and that strict truth remains the inaccessible preserve of an Absolute. Meanwhile the actual knowers in the workshop and the laboratory are working with the practical knowledge, which the metaphysician finds so indigestible, and ever giving us more and more control over our experience. Prof. Moore finds that the source of this paradox lies in the fact that practical and scientific thinking is purposive, and in aiming at certain concrete results uses its methods as means, whereas in epistemological analysis these processes are taken in abstraction from their actual function and so reduced to inanity. Thus 'analysis' in epistemology becomes something wholly different from what it was in science: in the latter an 'element' was whatever served as a means to get the result; in the former the problem is to find an eternal structure which exists independently of us and our efforts to know it. Only if such a completed system of reality could be found and we could obtain a precise transcript thereof, would our knowledge be valid, certain and necessary. As no knowledge can be found to satisfy these *a priori* demands, such a 'theory of knowledge' is bound to end in scepticism. But the English thinkers, with their healthy sense of fact, always in their practice operated with the 'functional' theory of knowledge, whatever theoretical homage they felt bound to pay to the scholastic ideal of a pure thought divorced from action. Bacon demanded a knowledge which should be power, though he could not disabuse himself of the idea that it was to be had for the mere *looking*. In Hobbes, Locke, Hume this struggle between the antithetical criteria of knowledge continues, and all the contradictions and confusions in Locke's theory in particular are shown to arise from this source. This latter point Prof. Moore studies carefully and in detail, and to my thinking establishes conclusively. Altogether the clearness with which he makes his point and the pertinacity with which he sticks to it, constitute his monograph a refreshing advance on the ordinary run of Ph.D. theses, and render it a valuable and important contribution to that pragmatist revision of the whole current theory of knowledge which is now beginning, and in which it is satisfactory to find the Chicago philosophers, under the auspices of Prof. Dewey, prepared to co-operate. Prof. Moore gives chapter and verse for Prof. James's dictum that the true critical method can best be found by working out the suggestions contained in the English tradition in philosophy.

F. C. S. SCHILLER.

Fragments in Philosophy and Science, being Collected Essays and Addresses. By JAMES MARK BALDWIN, Ph.D., D.Sc., LL.D., Stuart Professor in Princeton University. New York: Charles Scribner's Sons, 1902. Pp. xii., 389. Price \$2.50 net.

Prof. Baldwin explains that these papers, twenty-one in number, have been brought together in one volume because they are related to larger topics which he has treated more systematically (or will so treat) in separate works. And certainly their chief interest rests on the light they throw upon doctrines that their author has developed elsewhere. They do not form a collection of popular essays in philosophy, for many of the papers are highly technical, and many of them almost obscurely curt. Nor do they appear to develop or even to illustrate any single central idea; indeed, their heterogeneity is artificially emphasised by an arrangement which leads us from 'Philosophy and Life' through 'The Cosmic and the Moral' to 'The Memory for Square Size,' and thence, again, through a discussion of "The 'Type-theory' of Reaction" to 'The Psychology of Religion'. The more technical papers here reprinted are already so well known that they do not demand separate mention. With regard to the others, expectation is aroused by the opinion expressed in the Preface that our ultimate view of the world must be æsthetic rather than logical or ethical, and it is disappointing to find that after all they rarely touch on this topic. In the essay on 'Philosophy and Life,' Prof. Baldwin argues that, in a general way, and when historically interpreted, the effects of a philosophical theory on life are a legitimate test of its validity, and similarly in another essay on 'Theism and Immortality' he maintains that the demands of our æsthetic and of our moral consciousness have as just a claim to satisfaction as those of the intellect. This is valuable, of course, as against the philosophies which refuse to take any but intellectual postulates into consideration at all; but Prof. Baldwin scarcely tries to meet the argument that philosophy is an intellectual discipline and that within its own province the intellect must be allowed supremacy. Other articles are on 'The Idealism of Spinoza,' 'Recent Discussion in Materialism' (containing some interesting criticism of Bain, Wundt and Maudsley), 'Psychology, Past and Present,' and 'The Postulates of Physiological Psychology'. That on 'The Psychology of Religion' is suggestive, but a little unsatisfactory. Concentrating attention on religions as organised in society, it almost disregards the religious experience itself, and tends to find the value of religion only in its external effects as a conservative factor in social progress and as a prop to morality.

T. LOVEDAY.

Proceedings of the Society for Psychical Research. Part 41, 1901. Pp. 649. Part 44, 1902. Pp. 275.

The first of these volumes contains a further investigation of the phenomena connected with Mrs. Piper's trances, in the shape of detailed reports and critical discussions by Prof. Hyslop, of Columbia, of sittings in which the chief communicating intelligence professed to be his deceased father; the second is similarly made up of the experiences of Sir Oliver Lodge, the late Mr. Frederic Myers, Dr. F. van Eeden, Dr. Hodgson, Mr. J. G. Piddington, Mr. "Wilson," Miss Alice Johnson and Mrs. Verrall, with an English psychic, Mrs. Thompson. Neither series perhaps contains anything quite so striking as Mrs. Piper's "G. P." communications (*Proc.*, pt. 33), but Prof. Hyslop's full discussion of the question of

interpretation is notable (with its conclusion in favour of the spiritistic hypothesis), as are also his experiments on the modes of recognition used by communicators who had to establish their identity through telegrams, without giving names. By this most ingenious method Prof. Hyslop was able to show that the general character of the communications was very similar to those proceeding from trance-mediums, and that very slight and apparently trivial indications were effective in leading to recognition, so that their use by the supposed 'spirits' seems quite consonant with normal human psychology. To the evidence itself it is impossible to do justice in an abstract; its effect is necessarily cumulative, and all that can be said is that these volumes add materially to a mass of carefully recorded and digested evidence which *ought* (one would have supposed) to have excited widespread scientific interest. And yet, outside the S. P. R., there is as little indication of any serious determination to investigate the matter as there was twenty years ago, and less than there was fifty years ago, and so even reports like the present pass unread and unheeded. It is true that our knowledge of these phenomena is still in its rough beginnings, that their interpretation is still disputed, and that upon any view they present difficulties as yet unsolved. But why do not these very features, as in all other subjects, attract, rather than repel, attention and research? The explanation would seem to be that no real scientific desire to know has yet been aroused with regard to such phenomena, and that, until it has been, the utmost that the labours of psychical researchers can expect is neglect.

F. C. S. SCHILLER.

The Cambridge Platonists. Edited by E. T. CAMPAGNAC, M.A. Oxford: Clarendon Press, 1901. Pp. xxxvi., 327.

This is a volume of selections from Benjamin Whichcot's *Select Sermons and Aphorisms*, John Smith's *Select Discourses*, and Nathanael Calverwell's *Discourse of the Light of Nature*, together with an introduction and index. It is a pleasant book of very pleasant writers, and the introduction is well written. Although it omits Ralph Cudworth and Henry More it is a useful complement to the second volume of Principal Tulloch's *National Theology in England in the 17th Century*. The Cambridge Platonists do not lend themselves easily to selection, and the editor has wisely confined himself to complete specimens, and complete specimens of Cudworth are overlong.

Diffuse, digressive, pedantic though most of the Cambridge Platonists were; though they lived in backwaters and kept aloof from the great political and ecclesiastical controversies of a grasping and distracted age; though they devoted themselves to the revival of an ancient philosophy overlaid with fantastic assertions and in any form singularly alien to the English temperament and singularly remote from practical issues, yet their influence was rather practical than intellectual. It was their elevation of character, sweetness and charitableness of disposition, sincerity and unselfishness, which chiefly appealed to their contemporaries and appeal to us now. They graced manners and religion more than they advanced philosophy, and their graces still blossom in the dust of their ponderous learning. In many respects their labours invite comparison with the latest attempt to base a philosophy of religion on a revived idealism which is associated rather with Oxford and Cambridge. The writers in *Lux Mundi*, like the Cambridge Platonists, make the 'spiritual element in knowledge' the starting point for the vindication of responsibility in action and faith in religion. Both schools stake too much on

a precarious theory of knowledge, and in both cases the superstructure seems to rest loosely on the foundations, rather than to grow out of them.

The Elements of Mind, being an Examination into the Nature of the First Division of the Elementary Substances of Life. By H. JAMYN BROOKS. London: Longmans, 1902. Pp. xviii., 312. Price 10s. 6d. net.

This product of "a fortuitous train of thought" purports to be a new theory of mind, and is a tragi-comedy of good intentions.

T. LOVEDAY.

Histoire et Solution des Problèmes Métaphysiques. Par CHARLES RENOUVIER. Paris: Alcan, 1901. Pp. ii., 477.

In this volume the venerable *doyen* of French philosophers aims at giving in full his reasons for the judgments on the work of his predecessors and *confrères* which he expressed in his recent *Dilemmes de la Métaphysique pure*. It is not, therefore, a history of philosophy so much as a suggestive discussion of that history, intended to lead up to the formulation of the essential problems as M. Renouvier conceives them, and to exhibit the necessity of the solutions he has offered in his *Neocriticism*. He has accordingly added a statement (in thirty pages) of his doctrine, and this will probably be found to be generally convenient for purposes of reference, on account of its lucidity and brevity and the information it gives as to the historical development and philosophic affinities of the doctrine. One cannot read it without being impressed by the author's profound knowledge of the history of thought, by the pertinacity with which he seeks to draw attention to his solutions of difficulties to which philosophy after philosophy has succumbed, and by the noble faith in the victory of truth which the experiences of a long life do not seem to have uprooted.

And yet M. Renouvier must be a disappointed man. For his doctrines have never yet received the attention which their intrinsic merits and his earnest advocacy of them deserved. The infinitism, the monism, the determinism, against which he has been arguing for fifty years, appear to be as uncritically rampant as ever in the utterances of professional philosophy, while theology seems as distracted as ever by the necessity of choosing between the incompatible doctrines of a Divine Personality and an all-dissolving All which it is dimly conscious must ultimately deny to the religious appetites any real satisfaction. Why, then, have M. Renouvier's labours had so little effect? is a question which his reader cannot but ask, and to which his book must surely contain the answer.

It would not be sufficient to answer that M. Renouvier has adopted the alternative which is less popular with philosophers; he has also pressed for a decision on questions of which no rational decision was desired. For the incompatible doctrines, between which humanity has halted with a patience surpassing that of the exemplary ass of Buridan, are at bottom emotional postulates, and as such will be held *together* so long as the conflicting desires sustain them. It is possible also that in this case the ass has not really had any but a slight and spasmodic appetite, nor has yet been convinced that a decision was really a vital necessity. But other reasons also may be adduced which are more closely connected with M. Renouvier's literary personality. He is not a brilliant writer, and style still counts for much, especially in France. He is free from pretensions; he does not envelop his philosophy with the

charm of mystery by promising wonders to the faithful, and then retiring into the cavernous convolutions of a thought which none can really follow. There is no romance about the clear, dry precision with which he makes his points, and in the light of his manner even his more romantic doctrines, *e.g.*, his doctrine of the Fall, only look grotesque. It must be admitted also that some of the pillars of his system seem somewhat unsubstantial. His Libertarianism does not seem satisfactorily founded upon a mere act of faith, even though it proceeds from a rational perception that neither freedom nor its negation is demonstrable. His doctrine of faith itself, excellent as are the remarks it leads him to make (*e.g.*, on pp. 94-95) as to the necessity of its intervention in the making and sustaining of every judgment, might have been immensely strengthened by a systematic illustration of this truth from every field of human knowledge. Even his great doctrine of Personality seems, similarly, to lack a definiteness and concreteness which might well have been supplied by tracing the omnipresence of personality in every act and thought and the impossibility of really dispensing with it anywhere. His choice of a name also was perhaps unfortunate; from a *Neocriticism* one would expect neither the novelty nor the constructiveness which his work undoubtedly possesses. But perhaps the whole truth is that M. Renouvier has been neither novel nor constructive enough; he has allowed himself to be hampered by excessive respect for philosophic tradition and the historic formulation of philosophic problems. But the great man in philosophy, as in the other pursuits of life, is not one of the *Diadochi* who carries on a stereotyped tradition: he is the maker of new values and the importer of fresh thoughts. Academic philosophy in all ages has shown that mere erudition will not keep thought alive, and that persistent inbreeding speedily results in debility and death. But upon the cross-fertilising of philosophy by the new suggestions which are crowding in upon it from the sciences (especially biology and psychology) M. Renouvier appears to have bestowed but little attention, although it is probably from these sources that will come the evidence which will finally persuade mankind of the general soundness of the *Weltanschauung* which he champions.

F. C. S. SCHILLER.

Études de Psychologie. Par J. J. van BIERVLIET, Professeur à l'Université de Gand. Paris: Félix Alcan, 1901. Pp. 201. Price 4 fr.

This volume is made up of four articles reprinted from various psychological magazines. By far the most valuable of them is the first, "L'homme droit et l'homme gauche," which was first published in *La Revue Philosophique* for 1899. Its object is to show that dextrality and sinistrality are characteristics of two distinct types of men, and that we must include under these terms, not only ordinary right-handedness and left-handedness, but also an asymmetry of the body generally, and a greater acuteness of the sense-organs on one side or the other. Ambidextrous persons the author does not believe to exist, though it is just possible that in women the preponderance of one side over the other is less marked. The first part of the article deals with asymmetries of the motor system. The results arrived at by direct measurement, both of skeletons and of living bodies, are not altogether concordant, but it seems clear that the skull of the "*droitier*" is, like his brain, more developed on the left side, and that the bones of his right arm exceed those of the left in length, circumference and weight, the opposite being the case with the left-handed, who form, perhaps, about 2 per cent. of mankind, or, at any rate, of western peoples. The same asymmetry is found as the

result of weighing the muscles of the two halves of the body, and the general conclusion is supported by the reports of tailors, gloves, etc. In the second part the author discusses the asymmetry of the nervous system. He experimented first on the relative strength of the two hands. The dynamometer being unsatisfactory, inasmuch as it measures, not only force, but also skill, he eliminated the latter factor by using as his test a form of work to which both hands were equally unaccustomed. The subject was blindfolded, a weight was attached by a metal thread to the corresponding finger of each hand, and the weights were then lifted simultaneously three times in rapid succession. In the case of right-handed subjects, the right weight was kept constant, and the left varied, until subjective equality was attained; conversely with left-handed subjects. From these experiments M. Biervliet concludes that the ratio between the strength of the two hands is constant, at any rate among adult men, being as 10:9 in favour of one hand or the other. Further, a series of experiments on auditory and visual acuity, and on the tactile sensibility of the hands, led to the remarkable result that in these respects also the superiority of one side over the other may be expressed by this same ratio (*cf.* the later work of Toulouse and Vaschide upon the relative olfactory acuteness of the two nostrils—*Rev. Philos.*, 1900). The third part of this essay is concerned with asymmetries of function, more especially with the tendency of men and animals in motion to deviate from the straight line; and, finally, M. Biervliet discusses the origin of asymmetry. He does not profess to offer any satisfactory explanation. The theory which lays stress only upon exercise and acquired habit he, of course, rejects, nor does he regard dexterity or sinistrality as hereditary, except, perhaps, owing to 'a mechanical influence,' *viz.*, uterine conditions affecting the fetus. (In that case, they would be inherited from the mother only, a point which might surely be settled by collection of statistics.)

The remaining essays in this volume are of minor importance. They deal, with (1) Optical Illusions, (2) Illusions of Weight, and (3) Circulation and Cerebration.

T. LOVEDAY.

Bibliothèque du congrès international de philosophie. IV. Histoire de philosophie.

This volume, which contains papers of varying interest and importance on the history of philosophy, is appropriately opened by a few words from M. Boutroux on the object and method of the study. As was to be expected, he contrasts the sound method of interpreting each philosopher from himself with that of the *marche-à-reculons* or *Krebstgang*, which interprets all earlier systems in the light of the most recent, and has, therefore, the inconvenience of requiring a fresh application by each generation. Most of the papers are historical in the true sense, and some of them are real contributions to our knowledge. It is, of course, impossible to discuss them separately in a brief notice. Some of them would require a very full discussion indeed. This, however, is of little consequence; for practically everything of value in the volume either has appeared, or is to appear, in another form, and will receive full consideration in that way. Here it is only desirable to note certain striking features of the collection as a whole, which may be significant of the general tendency of these studies. In the first place, it is noteworthy that the papers on ancient philosophy are decidedly superior in originality and value to those on modern. In

the second place, the problem which receives the freshest treatment is the Platonic question, which has assumed an entirely new aspect in the light of the most recent researches. The final solution is hardly to be found here yet; but the papers of M. Couturat and Prof. Ritchie show clearly enough the direction in which the question is advancing. Special mention must be made of a paper by Prof. Berthelot of Brussels on the conception of mathematical physics from Plato to Pythagoras. This is inspired by Milhaud, who was in turn inspired by Tannery, and marks a distinct progress in a line of thought which the French have made specially their own, and which is clearing up a great deal that was formerly obscure.

Most of the papers on Modern Philosophy are by *professeurs de philosophie* in French *lycées*. They are excellent pieces of work, and their inclusion in this volume gives us a very favourable idea of the new spirit and method which animates the teaching of the subject in France. No country in the world has so many professional teachers of philosophy; for philosophy does not elsewhere form part of the regular course in secondary schools. It may, therefore, be expected that the value of France's contribution to philosophical literature will be very largely increased in the near future. The prospect of this opened up by the present volume is really its most striking feature, and serves to justify its existence as a part of the recent exhibition.

JOHN BURNET.

Le dieu de Platon d'après l'ordre chronologique des dialogues. Par
PIERRE BOVET. Genève: Kündig, 1902.

This is a dissertation presented to the University of Geneva for the degree of *Docteur ès lettres*, and is an extremely able piece of work. M. Bovet has taken up the problem of Plato's theology afresh in order to ascertain what light is thrown upon it by the results of recent researches on the chronology of the dialogues. He has also examined the views of God to be found in earlier Greek philosophy. In this part of his work, he has not, I think, done full justice to the fact that almost all the early philosophers called the one world or the innumerable worlds in which they believed by the name *θεός* or *θεοί* as the case might be. This is not a purely poetical habit on their part, though it may be going too far to call their naïve cosmologies by the name of pantheism. He is right, however, in holding that none of the earliest thinkers deduced the idea of God from his theory of the world or had recourse to it in order to explain that theory. He is also right in holding that the idea of God has no place in Plato's earlier philosophy strictly so called. In particular, the Form of the Good cannot be identified with God. He is also right in maintaining that Plato's later theory of the soul as the cause of movement led him to formulate for the first time in the history of philosophy the conception of a God who is the source of all motion and the creator of the world. No one who follows the argument can hesitate, in my opinion, to accept these conclusions, and they are of capital importance for the history of philosophy. Studies of particular points, such as the present, in the light of the now generally accepted views as to the chronology of Plato's dialogues, are what we need most in our efforts towards a satisfactory solution of the "Platonic question".

JOHN BURNET.

Les Timides et la Timidité. Par le Dr. PAUL HARTENBERG. Paris: F. Alcan, 1901. Pp. xv., 264. Price 5 fr.

The least fortunate part of this book is, perhaps, the Introduction, in which the author claims for his work that it is an essay in scientific psychology, and explains that he means by this the study of the functions of the brain! As it turns out, however, this prepossession does not greatly affect his work; in general he simply takes the line of the supporters of the Lange-James theory, which is accepted without criticism and without any attempt to show how it can be reconciled with his further position, that the affective life is prior to the intellectual and is irreducible. Chapter i. deals with the definition of timidity, which is regarded as a combination of false fear and false shame *in the presence of other human beings*. In chapter ii. the constituent emotions, fear and shame, are discussed, and the symptoms of Timidity itself minutely enumerated. Unfortunately it has as yet proved almost impossible to subject pure cases of this emotion to experimental examination. The third chapter is an interesting, rather than a scientific, sketch of the Character of the Timid. Quotations from autobiographical writings such as those of Rousseau are, perhaps, admissible, but it is difficult to defend the frequent references to, and excerpts from, works of fiction. For the rest, Dr. Hartenberg largely follows Dugas. The fourth chapter treats of the evolution, etiology, and varieties of the emotion. As to its etiology the author does not arrive at any very definite result. We are not much informed by learning that the basis of timidity is an inherited 'affective hyperæsthesia'. Even granted that the term is legitimate, we are no nearer a solution of the problems why the timid are disturbed by the presence of human beings only, and why their disturbance expresses itself in exactly these or those bodily alterations. Apparently, Dr. Hartenberg holds that 'every definite emotion is represented in the cortex by a definite group of cells' (p. 39), and that this explains the definite physiological concomitants (or constituents, as he would say) of the emotion. But he has already told us that timidity is a composite emotion. Do the 'cellular groups' fear and shame overlap? And, if the Lange-James theory is true, are these centres sensory or motor or both? Dr. Hartenberg returns to works of fiction. The treatment of varieties of timidity is chiefly concerned with the 'trac' of actors, singers, etc., of which a full and interesting account is given. There follows it (chapter v.) an excellent discussion of pathological cases, and a final chapter on the practical treatment of the timid. Scattered throughout the book are many acute and suggestive remarks, and several rather doubtful ones.

T. LOVEDAY.

La Minique. Par ÉDOUARD CUYER, Peintre, Professeur suppléant d'anatomie à l'École nationale des Beaux-Arts, Professeur à l'École régionale des Beaux-Arts de Rouen. (Bibliothèque Internationale de Psychologie Expérimentale). Paris: Octave Doin, 1902. Pp. 366. Price 4 fr.

In this volume the author offers us a treatment of a difficult subject which, though very complete so far as it goes, is far from being comprehensive. He approaches his subject too exclusively from the standpoint of the anatomist and too little from that of the psychologist. It is characteristic of his method that the first chapter, entitled "La Minique du Langage" only occupies two pages, of which one is devoted

to a representation of the deaf-and-dumb alphabet. Similarly the historical chapter ii., admirable within its limits, gives no account of any work later than Darwin's, except for a few quotations from Tissié. In no place (and this is the great defect of the book) does M. Cuyet develop a general theory of those expressive movements with which he deals; he follows here Gratiolet, here Duchenne, here Darwin, and does not seem to perceive the difference between the method of symbolic interpretation which is proper to æsthetic and that of genuine psychological explanation. On the other hand, as a book of reference for points of detail his work is extremely valuable. The third chapter deals with the anatomy of the muscles employed in facial expression; it is clear, and, like the rest of the work, well illustrated. The fourth chapter is the most important. It is headed "Analysis of expressive movements". Each muscle that serves to express feeling is taken in turn, the changes of expression due to its activity are described, and the particular feelings determined with which these changes by themselves or in combination with others are connected. The fifth chapter is synthetical, *i.e.*, it takes the emotions separately and describes the correlated movements of expression. A few remarks on the relation of the subject to the fine arts end the volume.

T. LOVEDAY.

Eduard von Hartmanns philosophisches System im Grundriss. Von Dr. ARTHUR DREWS. Heidelberg, 1902. Pp. xxii., 851.

On 23rd February, 1902, Eduard von Hartmann completed his sixtieth year. In accordance with a graceful German custom it was intended that the present volume should appear on that day as a birthday offering to the eminent philosopher whose system it unfolds; but at the desire of the publisher—who must be a rather exceptional type—it came into the world some months earlier. An introductory memoir recounts the principal events in a life almost entirely devoted to thought. The son of an artillery officer, Hartmann entered the Prussian army at a very early age without having passed through a university training. An accident, the effect of which was aggravated by injudicious medical treatment, obliged him to abandon the military profession at nineteen, and his life has been more or less that of an invalid ever since. He then tried painting, music, and to some extent poetry, but without success, and finally found rest in philosophy. Cynical critics have attributed his adoption of pessimism to these repeated disappointments; but a better explanation is applied by the immense vogue of Schopenhauer during the early sixties in Germany. As a metaphysician, at any rate, Hartmann was no failure. His *Philosophy of the Unconscious*, published in 1868, achieved, for a work of its kind, a success without precedent or parallel, and brought its author offers of a professorship from three German universities. Ill-health prevented his profiting by an opportunity which has not been repeated, his declared antagonism to Christianity counting as a disqualification for academic preferment in the subsequent period of reaction. Hartmann has followed up his brilliant juvenile performance by several other contributions to speculative literature of a more special and technical character; but they have added nothing essential to the ideas of that grandiose philosophical romance, nor have they enjoyed anything like the same popularity. Indeed his general reputation has declined considerably during the last quarter of a century, being more and more obscured by the rising fame of Nietzsche; and one object of Prof. Drews, who writes as an ardent disciple, is to revive it. The present

drift of German thought is, he thinks, favourable to such an enterprise. After the neo-Kantian school has come a neo-Romantic movement, and why should not this in turn be succeeded by something like neo-Hegelianism? In point of fact Hegel is beginning to attract some attention, even in Germany, thanks largely to Kuno Fischer's recent volume; but his system is too much out of touch with modern science to suit our present needs (a word to the wise at Cambridge and elsewhere!). On the other hand modern science is too dispersive, too fragmentary, permanently to satisfy our deepest cravings. And here is the *Philosophy of the Unconscious* ready to fill up the gap: why not then accept it, at least provisionally?

Even a pessimist may be too hopeful; and Prof. Drews, though presumably a young man, has, I think, mistaken his age. The stream of tendency that once gave Hartmann's philosophy such vogue is rapidly sweeping it into oblivion. To begin with it is based on pessimism, and pessimism is out of date—whether overcome by Nietzsche or by Edmond, Rostand or by Browning matters little in the present connexion. Enough that the will to die survives only among belated elderly mediocrities or among Italian *veristi* who ought rather to be called *falsisti*. Whoever doubts this need only be referred to the most modern literature, especially the new poetry of Germany, France and England, or to the later as compared with the earlier utterances of our older poets. Hartmann is himself of course a sort of optimist, combining what he is pleased to call evolutionary optimism with eudemonological pessimism. But long words set no bones. To say that pleasure without pain is the only ultimate value, and that life yields, from the nature of the case indeed must yield, a large surplus of pain over pleasure, is to pronounce life not worth living. But Hartmann finds the value for it in a sort of transcendent altruism, and that is what he calls evolutionary optimism. Our lives, he tells us, are, so far as they go, the predestined means of liberating the Absolute from the unspeakable torment of an everlastingly unsatisfied will, the creation of finite worlds being a wholly inadequate outlet for the infinite will of willing. For the longer the process of evolution goes on, in other words the more voluminous and intense consciousness becomes, the more acute and hopeless must be the sum total of suffering until a conviction is borne in on the cosmic will that the only hope of relief lies in the determination to unwill itself, in self-annihilation. This surely is pessimism of the deepest dye—much blacker than Schopenhauer's. And it can hardly appeal to those who have convinced themselves that volition is in itself a source not of pain but of pleasure. Nor does it seem a very promising foundation for morality and religion. Your genuine pessimist will hardly submit to an increase of misery for himself and for those whom he loves in order to redeem a highly problematical God from a still more problematical hell. He will see him—left there first.

If Hartmann's theory of life is out of date still more so is his metaphysics. Even a third of a century ago there was a singular audacity in reviving the speculative methods of Schelling and Hegel; and the tendency of criticism since then has been to discredit them, if possible, still more deeply. When we find a serious writer gravely reported by a serious interpreter as saying that 'the Logical creates space by setting the single dimension of time at right angles to itself' (p. 815), our first impulse is to dismiss the book as better fitted for notice in the pages of our esteemed contemporary MIND! than in our own, our second to consider the case in connexion with the psychology of a dreamy recluse living in the society of an adoring wife.

In this instance, adoration is not limited to the domestic circle. Prof.

Drews looks on Hartmann as the greatest of all philosophers, the Bismarck of speculation. Perhaps the resemblance goes deeper than he thinks. Bismarck was before all things an intriguing diplomatist, a master in the art of securing alliances and of setting declared or suspected enemies by the ears. In like manner Hartmann is always playing off the intellectual tendencies of the age against one another, or cleverly combining them in the semblance of a new synthesis, pessimism with evolution, mechanical with teleological causation, Hedonism with self-devotion, religion with materialism. And he interprets nature itself as a result of the same intriguing policy. Reason, without any power to act, sets Will at variance with itself, and is thus conducting it to final self-annihilation. But the weapons of Prussian statecraft are ill-fitted for the investigation of truth, being apt to break in the hands of those who use them for that purpose. Nor can such pure abstractions as 'Will' and 'Reason,' or 'the Logical' be set to do the work of concrete realities, even when they are wired together by a third abstraction and labelled 'The Unconscious'. Even such a phantasmal occupation as 'setting time at right angles with itself' implies activity and will. And the world-will, to be convinced of its unreasonableness in wanting to be, must have some reason after all (see Beauty and the Beast). But if so it would never have begun to be, and we should have been spared all this misery. The only real necessity for anything of the kind was that the *Philosophy of the Unconscious* should be written—and that was only a necessity for its author.

It would be rash to limit the possibilities of proselytism in a country which has produced Hartmann and Prof. Drews. But from a mere English point of view this ponderous volume would seem unlikely to increase the reputation of its hero. As an expositor the author is not to be compared with Kuno Fischer; indeed for clearness and elegance his style is much inferior to that of the master whom he has undertaken to interpret. Some sections, particularly in the second half of the book, are made nearly unreadable by the extreme condensation of the ideas and the uncouth phraseology in which they are clothed. And where the meaning comes out more clearly the system can only lose by having its self-contradictions brought closer together and exhibited in a more glaring light.

A. W. BENN.

Psychologie des Willens zur Grundlegung der Ethik. VON HERMANN SCHWARZ. Leipzig: Wilhelm Engelmann, 1900. Pp. vii., 391.

Mr. Schwarz's standpoint is that of Voluntaristic Apriorism, and involves two main tenets: (1) The independence of the will; (2) The authoritativeness of the act of choice. These, in the author's opinion, constitute the indispensable corner-stones of Ethical Theory. Our author's first effort is accordingly directed towards proving by close psychological analysis the independence of the will. This thesis he supports by showing that approval and disapproval, the pure original acts of will, do not, like pleasure and pain, vary in quality; nor do they vary in strength or intensity; they vary only in a way that is entirely *sui generis*, viz., in degree of saturation. In complete consistency with this thesis of the independence of the will, Mr. Schwarz insists further on its 'objectless' character. The will is indeed directed towards certain values, is not directionless, but these values are not its objects. And yet these primitive acts of will, though *sui generis*, are not unmotivated. The first part of the present book is in fact devoted to elaborating

under three heads, the Natural laws of the will, laws according to which the movements of the will are determined.

The second part deals with the Normal laws of the will, and centres round the conception of choice or preference. Here, again, Mr. Schwarz's main endeavour is to show that choice or preference are not acts of Reason or Judgment, but acts of Will. Preference is a volitional act governed by normative laws, laws, that is, which guide us in determining what is better and what is worse. It may be either analytic or synthetic. In the case of analytic preference all we do is to *sanction* the better course; in the case of synthetic preference we *dictate* it. Such dictation becomes imperative when we have to decide between values of different orders. In every such act of preference our decision is regulated by two principles, the one bidding us love our neighbours better than ourselves, the other bidding us love ourselves better than our pleasures. These principles do not merely ratify rules held good before, but provide out of their own normative essence an entirely new conception of what is the better. The distinctions of moral worth which they make originate from themselves. In a word, they create morality. The study of Ethics, as our author conceives it, is based on these two laws. As based on the one, it becomes the Theory of Moral Self-Assertion; as based on the other, the Theory of Moral Self-Denial.

Restricting our criticism to an essential point, we may question whether our author's concern to secure the authoritativeness of the laws of synthetic preference by making them authoritative in their own inalienable right is really well-advised. The ultimate question 'Wherein consists the sanction of these ultimate laws?' is a question that will not be put by. Must we not ask, 'What is the end towards which human nature by its very constitution is destined to strive?' and is not this end the ultimate standard of action rather than the bare fiat of certain solemn irresponsible laws?

The main gap in this striking work is the author's neglect to consider in his criticism the standpoint of modern Idealism, and yet Mr. Schwarz displays at every turn keen critical capacity. He has also the constructive gift; his distinctions are fine, his illustrations numerous and excellent. The *Psychologie des Willens* is the work of an earnest and gifted thinker; it is stimulating and suggestive, and can be cordially recommended. It is a first instalment. Mr. Schwarz promises us the *Ethics* to which this Psychology is but the prelude.

W. R. BOYCE GIBSON.

Experimentell-Psychologische Untersuchungen über das Urtheil. Eine Einleitung in die Logik. Von Dr. K. MARBE, Privat-dozent der Philosophie in Würzburg. Leipzig: Engelmann. 1901. Pp. 103. Price 3 m.

The author rightly emphasises the fact that logical treatises at present contain a large quantity of psychological matter, much of which is too often the result of very casual introspection. What is by nature psychological ought to be examined without prejudice under conditions which ensure accuracy of observation, and these conditions he has attempted to attain in certain investigations upon the Judgment. He does not confine this name to true or false propositions, but regards as a judgment any mental process which can be characterised as correct or incorrect (*richtig oder falsch*). This assumption determines his whole procedure. Not only sentences can "become judgments," but words,

ideas, gestures, and indeed any mental processes. The question therefore arises: Can we discover any experiences which constantly accompany processes that "become judgments" and lend them their character as judgments? Dr. Marbe used as subjects two skilful observers (Prof. Külpe and Prof. Roettken), induced in them a large number of judgment-processes, and registered the results that they obtained by introspection. He comes to the conclusion that there are no constant concomitants—or, as he rather rashly puts it, "no psychological conditions"—of judgment. But was it to be expected that the characteristic of judgment should lie in something extrinsic to it? The author apparently started by supposing that this might be the case because any experience can "become a judgment". But supposing this to be true, what does it imply? Later on, Dr. Marbe says that any experience becomes a judgment when the subject intends it to "agree with other objects". This is scarcely satisfactory, since he does not explain what is meant by "agreement," but in any case we have got beyond the initial idea or whatever it may be, for (1) we have a fresh attitude on the part of the subject, and (2) the "other objects" must also somehow enter into the judgment. The fundamental confusion is very apparent when Dr. Marbe examines what he calls "judgment-ideas". The subjects had (1) to lift two weights successively and turn the heavier over; (2) to whistle the note given by a tuning-fork; (3) to glance at three sheets of paper and fix their gaze on the brightest. We are told that (1) "the activity of turning the weight," (2) "the reproduction" of the note, and (3) the fixation of the paper, may all be correct or incorrect and are therefore ideas which become judgments. But these activities are certainly not merely ideas, and it is at least unusual to call them judgments. And for whom are they correct or incorrect? For the outside observer, or for the subject himself? Again there is a difference between the second and the first and third cases. In the second, the subject must first imitate the note, and may then perhaps judge his imitation correct; in the first and third he must judge one weight heavier or one colour brightest, and then behave in the required manner.

T. LOVEDAY.

Psychologische Grundlegung eines Systems der Wertheorie. Von Dr. JOSEF CLEMENS KREIBIG, Privatdocenten an der K. K. Universität zu Wien. Wien, 1902. Pp. 204.

Another Austrian work on the psychology of the theory of Value! Happily it is a comparatively short one this time. It is divided into eight parts. The first is a general introduction, giving a preliminary survey of the phenomena of value, and indications of some of the leading points of view. The second is on the psychology of feelings of value, and on general laws of value. The third deals with the psychology of the will in relation to value. The fourth is on the self-regarding aspect of value, including the foundations of Hygienics. The consideration of economic values comes under this heading. The fifth part deals with the other-regarding aspects of Value, and includes the foundations of Ethics. The sixth deals with the more impersonal (*ergopathisch*) aspects of value, including the foundations of Aesthetics. The seventh deals with formulas of value, and the eighth with the bearings of the theory of value on education. The work as a whole is interesting and suggestive, but can hardly be called masterly. The division of values into self-regarding, other-regarding, and impersonal seems somewhat crude; and no adequate attempt is made to justify it.

J. S. M.

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IX.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. xi., No. 3. **J. E. Creighton.** 'The Purposes of a Philosophical Association.' [President's address to the American Philosophical Association, 1902. Philosophers have been largely occupied with the history of their science, and have neglected personal intercourse and co-operation. Knowledge of the history of philosophy is essential, but the history is intelligible only when read in the light of present-day problems; and personal meetings tend to bring historical studies into closer and more intimate relation to one's own philosophical standpoint. Co-operation means fruitful work and sanity of outlook, as well as encouragement to the individual. Overtly and consciously, the purpose of a philosophical association should be to promote and encourage original investigation and research. It will thus help to remove two common reproaches made against philosophy: that its representatives are lacking in scholarly devotion to their subject, and that it is barren of practical result. As for the relation of philosophy to natural science, "philosophy has to humanise its facts, to look at them from the standpoint of complete and self-conscious human experience".]

W. A. Hammond. 'The Significance of the Creative Reason in Aristotle's Philosophy.' [Aristotle's theory must be derived from his general epistemology, from the meaning which he gives to 'form' and 'matter,' from the development of the Socratic-Sophistic controversy regarding conceptual and perceptual knowledge, and from special passages of the *De Anima* and the *Analytics*. His position mediates between the ultra-sensualism of the Sophists and the ultra-rationalism of Plato: the gulf between subject and object is bridged by the immanence of rational forms in empirical reality.]

W. M. Urban. 'The Relation of the Individual to the Social Value-series.'—II. [The introduction of the concept of complementary values into modern value theories promises to extend the range of quantitative conceptions to the explanation of purely inner personal values. But (1) the principle adopted by the economist-moralists to account for the phenomena of personal sanction, and for the absolute moment in the personal series, is not quantitative but æsthetic and qualitative; (2) the ideal personal values that arise in the working out of the qualitative law of the individual series have the absolute moment only in the æsthetic isolation of the personality; they are more or less indifferent from the standpoint of the social series; and (3) the indefinite development of these personal values is so far independent of the social values and their mutations, is so much a function of the personality, that it may be realised irrespectively of the phenomenal content derived from the sphere of social values. How, then, do the moments differ out of which the value-function arises in the two spheres? In the different rôle played in the two cases by the negative factor. "The difference between internal and external oppositions lies in the fact that, while in the external oppositions

of social forces . . . both moments in the opposition are in reality positives, and from the abstract quantitative point of view, either of them may be looked upon as positive or negative, in internal opposition . . . the positive is always an organised system of volitional tendencies, in opposition to which the negative is . . . a group of scattered particulars." **H. N. Gardiner.** 'Proceedings of the First Meeting of the American Philosophical Association, Columbia University, New York, 31st March and 1st April, 1902.' Discussion. **I. King.** 'Prof. Fullerton's Doctrine of Space.' [The Berkeleyan doctrine does not recognise or admit a real space such as Fullerton sets up over against perceptual space; the division is made only to escape absurdities in the Berkeleyan view. Nor are the two varieties of space necessary or permissible in any consistent theory. Kant meant by space the form, or law, of intuiting, as well as the product, or intuited space. It is the former element of which Kant thinks when he says that space is represented as an infinite given quantity. He may be wrong in using the term representation: but what he says must be interpreted in the light of his general standpoint, and not as if it were the teaching of a realist.] *Reviews of Books. Summaries of Articles. Notices of New Books. Notes.* **R. C. Robbins.** 'Prof. Royce's Refutation of Idealism.' [Critique of Montague's paper in the January number.]

PSYCHOLOGICAL REVIEW. Vol. ix., No. 3. **J. Dewey.** 'Interpretation of Savage Mind.' [Comparison as currently employed is defective in three ways. It is used indiscriminately and arbitrarily; the haphazard selection yields only static facts; and the results reached, even if accurate, are loose aggregates of unrelated traits, not a coherent scheme of mind. We must look at the savage positively, not negatively, as a system of lacks and absences of capability. And we may best classify by occupation. Take, *e.g.*, the hunting life of the Australians. Here "want, effort, skill and satisfaction stand in the closest relations to one another; . . . immediacy of interest, attention and deed is the essential trait of the nomad hunter. . . . The hunting life is of necessity one of great emotional interest, and of adequate demand for acquiring and using highly specialised skills of sense, movement, ingenuity, strategy and combat." This mental pattern is carried over into all the relations of life, and becomes emotionally an assimilating medium: witness art, religious observances, practices in death and sickness, marriage customs. It is upon such a ground-pattern, then, that further genetic psychology must build.] **G. S. Fullerton.** 'The Atomic Self.' [The plain man is usually ready to maintain (1) that the mind exists within the body; (2) that it acts upon matter, and is acted on by matter; (3) that it is a substance with attributes; and (4) that it is non-extended and immaterial. The first three propositions look on mind after the analogy of a material atom; this view of mind is a semi-materialistic survival of ancient materialism. The fourth proposition, which makes the plain man's belief inconsistent, embodies the scholastic revolt against materialism. If stress is laid upon this fourth proposition the positive content furnished by the first three appears to be blotted out.] **S. de Sanctis** and **U. Neyroz.** 'Experimental Investigations Concerning the Depth of Sleep.' [Record of experiments upon normal sleepers and psychopaths, by aid of a modified Griesbach aesthesiometer; determination of subconscious reaction and of waking point. The maximal depth of sleep occurs in the first half of the second hour. The curve follows in general a descending course, but exhibits marked oscillations, with a maximum and minimum for each hour of sleep. There are, however, individual variations.] *Discussions and Reports.* **H. H. Schroeder.** 'Posthypnotic Suggestion and Determin-

ism.' [There is no valid reason for believing that there is any difference between the volitional process in 'ordinary' volitional action and that in the action performed under posthypnotic suggestion. To the subjective consciousness there is, as a rule, no such difference; and where a difference is felt, it can be satisfactorily accounted for by regard to the circumstances under which the introspective testimony is apt to be right or wrong. Hence posthypnotic experiments strengthen the position of the determinist.] Psychological Literature. New Books. Notes.

AMERICAN JOURNAL OF PSYCHOLOGY. Vol. xiii., No. 1. **H. C. Stevens.** 'Studies from the Psychological Laboratory of the University of Michigan. V. The Relation of the Fluctuations of Judgments in the Estimation of Time Intervals to Vasomotor Waves.' [The vasomotor wave coincides, in at least 50 per cent. of the author's experiments, with fluctuation in the judgment of a time interval. For intervals above 3.7 sec. the strain of respiration may be employed as an aid to estimation. The method of single reproduction tends to lower the indifference point. Intervals below 0.40 to 0.70 sec. (the limit differs with individuals and methods) are overestimated; intervals from this point to 2.40 sec. underestimated; intervals from 3.70 to 7.24 sec. again overestimated. Weber's Law does not hold for the time sense. Temporal judgments in general are mediate, depending on organic processes, of which change in blood volume is one of the more important. Vasomotor change plays a predominant part in time up to 2 sec.; respiration strain comes in with longer intervals. These are, of course, not the only factors involved in interval estimation.] **C. H. Sears.** 'A Contribution to the Psychology of Rhythm.' [An experimental study of the time values given by competent performers to the notes of several simple musical selections. Two successive executions of the same selection (with short pause or without break) show a considerable temporal variation. In general, the second performance is the slower. The variations of the measures are not constant; and the relative length of the tones is also variable. In some cases there is marked lengthening of accented notes. There is a slight tendency to make the second note of a triplet longer than the first, and a marked tendency to make the last longer than either of the others. Intervals occur between successive notes on the same degree and on different degrees of the staff. Overlaps are common and of varying length. Playing in parts does not ensure greater accuracy than playing the air alone. Meumann's view that the musician is aided by a motor appreciation in his rendering of the fractional parts of intervals is probably right; but his conjecture that, in playing with both hands, the one hand helps the other in giving the correct relative length to time intervals is not borne out.] **H. B. Woolston.** 'Religious Emotion.' [The religious emotions are dependent on certain constitutional and organic factors. They vary pretty constantly with certain meteorological conditions and with bodily rhythms. They are increased by the use of physical stimuli. Exaggerated religious emotion is connected with certain diseased nervous states. As to their office in the religious life, they have no value at all, "except as the inward resonance shows ready response of the nature to a certain sort of influence, and except as the excitation leads to a large and worthy effort". In general, "religious emotion arouses the expansive manifestations of love, to which it is very much akin. And thus it leads to unselfish activity." Religion is also of value in enforcing morality, and thus forming a strong social bond.] **S. S. Colvin.** 'The Psychological Necessity of Religion.' [Religion may be defined as the feeling of absolute dependence. It can never be transcended or eliminated, (1) because intelligence is not perfect, nor knowledge absolute; (2) because life is not and can never be satis-

factory in itself.] **R. MacDougall.** 'Rhythm, Time and Number.' [The sensory rhythmisation of successive durations introduces always specific errors of estimation; it is only when the succession of intervals is not part of a rhythmical sequence that accurate comparison of their time values becomes possible. Moreover, every motor accompaniment of a series of regularly recurrent sensations tends to interfere with the proper estimation of the time values of their intervals, by becoming automatic. Nevertheless, it is on rhythmical processes, in the last analysis, that not only æsthetic apprehension, but also the sense of time itself depends. Contradiction appears, and the capacity of correct discrimination is destroyed, only when the intervals to be compared are bounded by dynamically unlike units. The estimation of time is based upon the phenomena of general attentive adjustment common to all the senses alike. The process of rhythmical integration is also involved in the numerical apprehension of serial impressions beyond very simple groups. 'The limits of our capacity for estimating temporally extended periods or numerical series are to be looked for in the physiological laws which condition motor discharges on the one side, and make it possible or impossible for us to imitate the objective series by a system of organic strains; and, on the other hand, in the limits placed upon our discrimination of refined experiences of strain due to perception-reflexes taking place in some part of the bodily organism.'] **A. J. Kinnaman.** 'Mental Life of Two *Macacus Rhesus* Monkeys in Captivity.'—1. [Methods of animal psychology: (1) free observation of animals in their natural habitat; (2) study of the development of young animals; (3) training; (4) free observation of animals in captivity; (5) experimental. Interpretation of data: sphere of the *lex parsimoniae*. Characterisation of the animals observed. Repetition of Thorndike's experiments. Results: the monkeys have not reasoned; first efforts require much more time than later; a better may be substituted for a poorer mode of manipulation; manipulations are undertaken in a regular order; most of the learning is done by trial and happy accidents, with the recollection of these and the elimination of useless efforts, though the female has learned by imitation; ability increases to fasten on the essential point of difficulty in the tasks assigned. New tests: combination locks, form tests, size tests, discrimination of colour and shade. Instances of inhibition; of gradual association; of preference for bright colours.] **N. Triplett.** 'A Contribution to Individual Psychology.' [A curious instance of "a struggle of the letters . . . as they appear in words," of a mental war of words, which has persisted and developed from the fifth year to early manhood.] Literature.

INTERNATIONAL JOURNAL OF ETHICS. Vol. xii. No. 4. **M. E. Robinson.** 'Originality.' [Suggestions for the promotion of originality in England by improvement of university teaching and by raising the tone of social life.] **J. Martin.** 'The Social Value of Trade Unionism.' [A defence of the industrial and moral results of unionism in America.] **J. McCabe.** 'The Conversion of St. Augustine.' [It was not a renunciation of sin so much as of all sexual affection, in accordance with the false ideal current among Christians at that time.] **A. J. Jenkinson.** 'The Problem of Conduct: a criticism.' [An adverse criticism of A. E. Taylor's recent book.] **A. H. Lloyd.** 'Scholars of the Cloister: a defence.' [A defence of the work of scholasticism more especially in political economy and the theory of language.] **F. Thilly.** 'Intuitionism and Teleology.' [Using teleology in the sense of the ethical theory that an action's worth is determined by its results, the writer argues that intuitionism and teleology are not incompatible. It is only the more

extreme forms of each theory that are in conflict.] **J. D. Logan.** 'The Optimistic Implications of Idealism.' [Both pluralistic and monistic idealists assume that virtue implies happiness. This, however, is erroneous, for human goodness as being a war with evil will always involve unhappiness.] Book Reviews.

PROCEEDINGS OF THE ARISTOTELIAN SOCIETY. New Series. Vol. ii. **G. F. Stout.** 'Alleged Self-contradictions in the Concept of Relation. A criticism of Mr. Bradley's *Appearance and Reality*, pt. i., ch. iii.' [The fact that relations and qualities are mutually dependent does not make the concept of relation self-contradictory.] **B. Bosanquet.** 'Recent Criticism of Green's Ethics.' [A reply to criticisms of Green contained in A. E. Taylor's *Problem of Conduct*.] **A. Boutwood.** 'The Philosophy of Probability.' [Neither every-day experience nor inference gives us fact. Religion on the other hand gives us practical content. The function of thought is not to give us fact but increase our practical content as far as possible.] **Mrs. S. Bryant.** 'The Relation of Mathematics to Formal Logic.' [A defence of Boole's view that general logic is mathematics with all conceptions of quantity struck out; with an exposition of the chief forms of symbolic reasoning.] **G. F. Goldsborough.** 'The Ethical Limits of Method in Philosophy.' [A discussion of the relation of motive to method in philosophical investigation, leading to the conclusion that the choice of method is purely ethical in character.] **G. E. Moore.** 'Mr. McTaggart's *Studies in Hegelian Cosmology*.' [A criticism of the three chapters on "Human Immortality," "The Personality of the Absolute," and "The Further Determination of the Absolute.".] **H. W. Carr.** 'Mr. Bradley's Theory of Appearance.' [A refutation of the contradictions alleged to inhere in the conceptions of space and time.]

REVUE PHILOSOPHIQUE. August, 1902. **James Sully.** 'Les théories du risible.' [Author criticises Hobbes and Kant's theories as being each incomplete alone. A satisfactory theory must include the leading principle of each.] **L. Dugas.** 'La surmenage à rebours.' By 'surmenage' author understands the violation (and attendant suffering) of the natural laws of labour. This phenomenon is conspicuous in the democratic education of to-day, which, regardless of natural inequalities, aims at rendering all eligible for all careers. **G. Palante.** 'La téléologie sociale et son mécanisme.' [Social evolution has passed through three stadia governed respectively by the three following laws: (1) Law of mental inertia and least effort; (2) law of activity directed towards the maximum of social utility; (3) law of activity directed towards the maximum of individual life and beauty.] Notes. Analyses et comptes rendus. Revue des périodiques étrangers (*Proceedings of the Aristotelian Society*). September, 1902. **Récéjac.** 'La confusion entre l'ordre social et l'ordre religieux.' [Christ was a mystic, conscious, above all things, of his union with God and of his divine 'election'. This latter accompanied by an expansive tendency. Mystic states, however, cannot be communicated—hence the institution of sacraments which stand between such states and clear ideas. The Church, which arose out of social needs, developed ritualism and also—in opposition to its founder—the conception of political power and the right of owning property.] **Palante.** 'Études sociologiques. II. Moralisme et Immoralisme.' [Immoralism, represented by Heine and Nietzsche, is the revindication of the rights and liberties of the individual as against the supposed rights and ends of society.] **Chayottes.** 'Le conflit actuel de la science et de la philosophie dans la psychologie.' [Science studies the universe as it appears, tries to arrive at a clear and coherent representation of it;

philosophy aims at forming a conception of the universe as it is in itself and to furnish a complete explanation of it.] **T. Segond.** 'Publications récentes sur la morale.' Notices. Bibliographiques. Revue des périodiques étrangers. (*Psychological Review. American Journal of Psychology.*) October, 1902. **F. La Dantec.** 'La place de la vie dans les phénomènes naturels (I.).' [Too long to summarise.] **A. Binet.** 'Le Vocabulaire et l'Idéation.' [Record of a study of vocabularies of two sisters, subjected to the same influences but varying markedly in temperament.] **Girard-Varet.** 'Le langage et la parole: leurs facteurs sociologiques.' [Articulate language is not exclusively the outcome of an unconscious mechanism. It is the work not only of nature but also of man. It is a social phenomenon.] **F. da Costa Guimaraens.** 'Le besoin de prier et ses conditions psychologiques.' [The need of prayer is instinctive and organic; it is part of the instinct of self-preservation. Like language, prayer also is a 'cry of the body'.] **F. Paulhan.** (Discussion.) 'La Méthode analytique dans la détermination des caractères,' Analyses et comptes rendus, etc.

REVUE DE MÉTAPHYSIQUE ET DE MORALE. 9e Année, No. 5. Septembre, 1901. **C. Bouglé.** 'L'idée moderne de la nature (différenciation, hérédité, concurrence.)' [Under these names describes the theories (1) of Milne Edwards that, 'as Darwin concludes,' 'the degree of superiority of an organised being is to be estimated according to the more or less perfect localisation and differentiation of its organs and their special adaptation to different functions'; (2) of Lamarck that the modifications in an organ, due to the parent's use or disuse of it, may be inherited; (3) of Darwin. Darwin *explains* the two facts which Edwards merely points out, namely, the existence of a variety (*a*) of species, (*b*) of organs; and he points out a fact which Lamarck had neglected, namely, that the offspring of the same parents are born with differences which enable some to survive better than others in the same surroundings. The account of 'Natural Selection' is very clear and just and M. Bouglé points out that the theory is purely 'mechanical' in spite of Darwin's 'anthropomorphic' language; but, in classing it as a completion of the mechanical explanation begun in (1) and (2), he neglects the fact that (1) contains no *explanation* at all, either mechanical or 'finalistic,' and that the only fact, of which (2) fails to give a mechanical explanation, namely the individual's power of adaptation to its environment, is also not explained by Darwin. M. Bouglé's object is to prepare for discussing the relation of this 'mechanical conception of Nature' to Ethics; but the fact that under his 'theory of differentiation' he fails to distinguish the ethical judgment, 'differentiation is a sign of superiority,' from the historical fact that differentiation has increased is only one instance of many confusions which his remarks on this subject betray.] **G. Cantecor.** 'La morale ancienne et la morale moderne.' [A recent 'study' of M. Brochard's holds that the ancients did not use the notions of 'moral law,' 'duty,' etc., so prevalent in modern Ethics; that hence these notions are 'factitious' and of 'theological origin'. M. Cantecor will submit that they are 'necessary and true,' and will explain why, in spite of this, the ancients did not recognise them, and that their connexion with theology and metaphysics is due to misunderstanding. I. To believe in a moral law is only to believe 'that there is an authority, for man, distinct from his desires'; and this notion is logically implied in that of 'good,' since 'the good' means 'what we *ought* to will'. The Greeks, having begun by an appeal to 'reason' against 'external authority,' naturally did not see (*sic*) that reason itself is an 'external authority' in relation to our '*individual* nature' and our will: moreover, as was

natural, they only tried to 'define the ideal,' without asking the 'critical' question, 'How does there come to be an ideal at all?' This true philosophical method, which consists in investigating 'form' before its objects, was at first applied, even by the moderns, to 'theoretical' questions only: Shaftesbury and Hutcheson began that application of it to morality which was successfully carried out by Kant. II. Kant's real meaning (confusedly expressed and much misunderstood) is that to act on universal principles *is* to act reasonably: hence his moral law is 'a *datum* or act of reason,' not the action of a 'mysterious (theological) and arbitrary authority': he proves it, too, by showing that it alone 'makes possible' the admitted fact that we judge things to be good and evil. It is an 'authority' merely because 'reason' cannot deny that what is 'reasonable' should be done. A very poor article.] **J. Wilbois.** 'L'esprit positif.' [Continued from March number. II., Facts. (1) Mill's four rules of induction only apply to facts of the kind observed by 'common sense,' i.e., definite given individuals; hence they are too 'infallible' (!): he and Comte did not understand the nature of the 'facts' with which modern physics deals. (2) The success of this science depends upon exactness of measurement, and, in proportion as our instruments are more exact, we have both (a) to make our experiments under extremely complicated conditions, and (b) to 'correct' our numerical results; but we cannot define either the conditions or the method of correction, which we actually choose, and our choice is only one of infinite possible alternatives: hence a 'scientific fact' is both 'indeterminate' and 'created by us'. Our choice is (and ought to be) guided by (3) the *beauty* of an experiment or formula ('analogy' and 'simplicity' are only ambiguous expressions for certain forms of beauty); and by (4) 'the sense of progress' or 'of principles' = the desire to generalise a law, which is itself 'never universal or infinitely precise,' but is felt as a 'tendency'. (5) Of Comte's 'three stages,' the first two are marked by 'a refusal to act upon nature': the 'positive stage' (exemplified by nineteenth century physics) contains in itself more 'variety' than the other two put together; 'the positive spirit in physics' may be 'defined' as 'a spirit of invention which seizes, in a fact, the evolution of a principle, which is itself a means of possessing and unifying the given under a mathematical form'. (6) Both the 'Idealism of Liberty' and 'Mechanical Realism' are mistaken, the former because 'matter has certain habits,' the latter because its habits may change from time to time. Matter is (a) a mere 'potentiality,' its 'determinism' at any one time being the result of our ancestors' 'liberty,' but (b) it has a 'final cause,' which is 'the activity of the man of science,' and the final cause of this, again, is 'virtue'. Thus 'scientific induction' is 'a durable act of the human race': it consists in 'obtaining the intuition of matter,' which can only be done by escaping from 'the illusion of space and time' and 'replacing ourselves in pure duration'. (7) Summary.] Enseignement. Questions Pratiques. Supplément.

L'ANNÉE PHILOSOPHIQUE (11^{me} année), 1900. Rédact. général, F. Pillon. Bibliothèque de philos. contemp. Paris: Felix Alcan. Pp. 1-131, Articles; pp. 133-314, Reviews. This number of M. Pillon's magazine contains four articles of a general nature: one by **M. Brochard** on 'The Myths in Plato's Philosophy,' another by **M. Hamelin** on 'One of the Sources of Spinozism,' a third by **M. Dauriac**, 'An Essay on the Categories,' and the fourth by **M. Pillon** on 'Bayle's Criticism of Cartesianism'. M. Brochard, in a short paper, points out that the myth is not alien to the spirit of Plato's philosophy, does not lessen its dialectical value, but is merely a garb which it can conveniently assume to clothe

its ideas. The second article contains a mere suggestion that Spinoza must have been influenced very largely by Aristotle, in virtue of the fact that Hebrew philosophy, as represented, *e.g.*, by Maimonides, was derived mainly from Aristotle through the Syrian and Arabian teachers and writers. Some striking parallels between Spinoza and Aristotle are mentioned to give cogency to this contention. M. Dauriac's essay is somewhat rambling and inconclusive. He dismisses the universal validity of the categories, insists on their "contingency," and then seems to bring back most or all that he has taken away from them by explaining that they "participate" in "necessity". The last article is a continuation of a series on the same subject which has appeared in preceding numbers of the magazine. It is a very thorough analysis of some of Descartes fundamental conceptions, and a cautious review of Bayle's criticism. Amongst other points, one of considerable interest may be mentioned. Bayle's interpretation of substance varies throughout his criticism of Descartes, the truth being that he had in view two quite distinct conceptions of substance and did not see his way out of the difficulties presented by both. One was derived from scholastic Aristotelianism, the other from the new philosophy initiated by Descartes. According to the former substance is a kind of neutrum which can appear with different or even any attributes, and may hence be stripped of all,—which makes any distinction between spiritual and material substance ultimately valueless. According to the latter it is held that attributes cannot be separated *realite* from substances at all, that they are the *essence* of substance, that extension, *e.g.*, and matter are one and the same thing, and that thus there may be different substances, but no remainder which is equally something or nothing. That this distinction has a very important bearing not merely on questions of nominalism and realism but also on most metaphysical questions need hardly be pointed out.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE. Bd. xxviii., Heft 3 und 4. **T. Lipps.** 'Einige psychologische Streitpunkte.'

[Three criticisms of Ebbinghaus. (1) Ebbinghaus's theory of fusion leads, if taken literally, to the absurdity that fusion is grounded in an enhancement of qualitative distinctness or independence. An examination of Stumpf, Wundt and Ebbinghaus leads to the conclusion that the true basis of fusion lies in the congruent rhythms of the (unconscious) psychical processes which underlie sensation. (2) There is no such thing as a 'sensation' of motion, or of tension or weight. Innervation sensations are to be replaced, not by 'muscle' sensations, but by certain ego-experiences, effort feelings, *Strebungsgefühle*. The point is sustained by appeal to pathology. (3) The relation of similarity is nothing sensational, not a general characteristic of sensation, but an apperceptive experience; a predicate of two or more contents, *e.g.*, of the two colours, red and violet, "wenn ich sie zusammennehme". It is not given, as attribute of the colours, when these themselves are given.] **E. Wiersma.** 'Untersuchungen über die sogenannten Aufmerksamkeitsschwankungen.'

—II. [(1) Practice in mental work at a definite time of day appears to influence capacity of perception; if this is the case, then the time of greater mental achievement may be shifted, despite an original disposition. The large differences of perceptual capacity at different times of day make it necessary to experiment always at the same hour, if one is seeking to estimate mental achievement. (2) Capacity of perception is seriously reduced by mental and physical exertion. (3) The taking of 10 grammes of absolute alcohol reduces capacity of perception; fatigue soon makes its appearance. (4) The taking of 3 grammes of bromide of

sodium increases perceptual capacity, not only on the day itself but for the following day as well. The effect may be due to the removal of excitatory influences.] **E. Kalischer.** 'Analyse der ästhetischen Contemplation: Plastik und Malerei.' [By 'aesthetic contemplation' is meant the mental process which may be termed specifically æsthetic. The mental attitude in contemplation is a psychological anomaly: there is intensive concentration of attention, while yet the normal range of consciousness (*Enge des Bewusstseins*) is transcended. Attention is focussed upon sensory impressions which, as part-contents of highly complex ideas, possess so great a power of reproduction that a minimum of sense datum releases a maximum of intellectual process. There is thus a peculiar relation established between the elements of consciousness and the complexes whose parts they are: between mental force or power and mental process or occurrence. All our mental force is collected in our concentration upon the sensory impressions; but what the senses receive is minimal in comparison with the range and number of ideas which the impressions arouse, and which develop as if under mechanical stimulus, without the active participation of the psyche. The author seeks to explain the anomaly by drawing a parallel between the conditions governing certainty and regularity of reproduction and those governing artistic contemplation. The reproduced ideas (1) appear only in indirect vision and (2) possess concrete universality. The theory which most nearly approaches the author's, in spite of its radically different formulation, is that worked out by K. Lange in his *Die bewusste Selbsttauschung als Kern des ästhetischen Genusses*, 1895.] **A. Fontana.** 'Ueber die Wirkung des Eucain-B auf die Geschmackssorgane.' [The author recommends the drug eucaine-B, whose formula he gives, in place of cocaine, for taste experiments. Its effect, like that of cocaine, is greatest in the case of bitter tastes. It has various advantages over cocaine, if it is not altogether as effective. For all but bitter tastes, its operation must be controlled before experimentation, owing to individual differences.] **A. Bernstein.** 'Bemerkung zu der Arbeit von Dr. E. Storch ueber die Wahrnehmung musikalischer Tonverhaeltnisse.' [Claim of priority for the statement that the substrate of musical thinking is given in the memory images of laryngeal movements.] *Besprechungen.* [W. Stern on Münsterberg's *Grundzüge der Psychologie*, I; and A. Wreschner on R. Müller's *Naturwissenschaftliche Seelenforschung*, III; Wille, *Hypnose*, Zweck.] *Literaturbericht.* Bd. xxviii., Heft 5 und 6. **L. Hirschlaß** mit Unterstützung von **H. C. Warren.** 'Bibliographie des psychophysiologischen Literatur des Jahres 1900.' [3,482 titles, as against the 2,627 of the *Psychological Review*, published in March, 1901.] Bd. xxix., Heft 1. **J. Volkelt.** 'Die entwicklungsgeschichtliche Betrachtungsweise in der Aesthetik.' [The subject-matter of æsthetics is limited by genetic considerations in two ways; for its principal problem is the establishment of the æsthetic norms recognised by the mature feeling (individual genesis) of the modern man (racial genesis). A universally valid æsthetics is an ideal, to be approximated at best in the fundamental chapters of an *Æsthetics*, in no wise attainable in the portions that deal with the several æsthetic departments. But in spite of this double limitation, one may not speak of a genetic 'method' or 'foundation' in æsthetics. Genetic considerations are necessary, but can be introduced only on the assumption that an æsthetics—based on the experience of the mature modern man—has already been worked out, and by the mediation of an essentially psychological procedure. The 'systematic' portion of æsthetics, in particular, must consist wholly in a working-over of first-hand æsthetic experience

(one's own or others') under the guidance of psychological fact and theory. Such a working-over implies, of course, constant reference to objects of nature and of art, of all times and places; but genetic arguments play a very small part indeed in it. Some aid is rendered, further, by the changes of meaning in words. Darwinistic questions are entirely out of place; they are to be raised only in the genetic portion of aesthetics.] **E. Storch.** 'Ueber das räumliche Sehen.' [Monocular vision tells us nothing of the true magnitude, distance or form of an object. These determinations, when correctly made, depend on the co-excitation of spatial experiences otherwise obtained (principally from the sense of touch). Binocular vision improves upon monocular only in the fact that it gives us (within certain limits) sensory data regarding the relative distance (relative before and behind) of the parts of the seen object. It, too, requires the support and refinement of extrinsic space experience. It follows that a visual form which, in consequence of such experience, is always or usually apprehended as a symbol of a determinate real form, will bring this real form to consciousness even when attendant circumstances demand a different spatial interpretation. If the meaning put upon the visual form be not in accord with reality, we have what is called an 'optical illusion' before us. The author works out his theory, following Filehne, by reference to the best-known optical illusions.] *Besprechung.* [J. Cohn on Ostwald's *Vorlesungen über Naturphilosophie.*] *Literaturbericht.*

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE UND SOCIOLOGIE. 1902, Heft 2. **Ernst Goldbeck.** 'Das Problem des Weltstoffs bei Galilei.' [Deals with the method and historical significance of Galileo's polemic against the traditional Aristotelian distinction between two substances, one earthly and subject to change and vicissitude, the other belonging to the heavenly bodies, perfect and immutable. A good article.] **A. Vierkant.** 'Die Selbsterhaltung der religiösen Systeme.' [The following grounds of the self-maintenance of religious systems are assigned. (1) Imposture. (2) False statistics, *i.e.*, the neglect of cases which fail to confirm a belief and undue emphasis on those which appear to favour it. (3) Adaptation of judgment to consequences, as when a supernatural power is only believed in when and so far as it has apparently given proofs of its efficiency. (4) The maintenance of propositions incapable of verification and the demand for conditions which cannot be fulfilled. (5) Effects of suggestion. (6) Effects of fear. (7) Trials by ordeal supposed to have divine sanction. (8) Dreams and ecstasies.] Heft 3. **Cay von Brockdorff.** 'Galilei's philosophische Mission.' [Brings into light the significance of Galileo as a founder of modern Philosophy; he discovered new and fundamentally important logical principles and methods, and originated a new attitude towards the universe.] **C. M. Giessler.** 'Über den Einfluss von Kälte und Wärme auf das Seelische Funktionieren des Menschen.' [Indicates the effect of heat and cold on the matter and form of ideational process.] **Karl Marbo.** 'Brömses und Grimsehl's Kritik meiner Schrift: "Naturphilosophische Untersuchungen zur Wahrscheinlichen Keitslehre".' [An interesting discussion; but brief summary is impossible.] **A. Vierkant.** 'Natur und Kultur in Sozialem Individuum.' [An attempt to separate the "natural" elements in man's mental life from what is due to his social environment.]

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE. Bd. viii. Heft 2. **H. Rickert.** 'Über die Aufgaben einer Logik der Geschichte.' [Maintains that History is essentially concerned with individual facts and processes and not with general laws or class-concepts of any kind. Its universal

concepts are concrete and collective rather than abstract and distributive.] **Stephan Witasek.** 'Wert und Schönheit.' [There is no peculiar kind of value which is distinctively æsthetic. The contrary assumption is due to a confusion between value and that which possesses value,—in this case beauty.] **A. Drews.** 'Zur Frage nach dem Wesen des Ich.' [Denies that introspection is cognition of an ultimate reality. Behind conscious process, as its real basis, there is unconscious will. All will is unconscious, never a mode of consciousness.] **Emil Bullaty.** 'Das Bewusstseinsproblem.' [Material objects are not directly experienced, as hunger and toothache are.] **Antioco Zucca.** La soluzione del Grande Enigma. Bd. viii. Heft 3. **J. Petzoldt.** 'Die Notwendigkeit u. Allgemeinheit des psychophysischen Parallelismus.' [It is the ultimate postulate of all knowledge that whatever exists or happens is unambiguously determined by its conditions. But no psychical fact is thus determined by other psychical facts. Hence all psychical facts are determined by their bodily concomitants. The simultaneity of conditions and conditioned holds for all unambiguous determination. This theory of parallelism is not to be taken as having metaphysical implications.] **Emil Bullaty.** 'Das Bewusstseinsproblem.' [The reality of which the material world is a phenomenon is directly manifested in the spontaneous functions of consciousness, *i.e.*, Thought and Will. Hence it is possible for us to know this reality in spite of its not being immediately experienced in sensation or perception.] **O. L. Winfrid.** 'Die Lösung des Welträtsels.' [What the riddle is, it is difficult to discover. The solution is somehow to be found in a rigid severance of the form of knowledge from its matter.] **A. Guesnon.** 'Raison pure et Métaphysique.' [An Exposition of the Philosophy of F. Evellin, mainly in the form of a series of extracts from his writings. The main point emphasised is the distinction between thinking in terms of the imaginable and the thought which is concerned with the unimaginable. To this distinction there corresponds an ultimate division of philosophical points of view.]

KANTSTUDIEN. Bd. vi., Heft 4. **A. Gallinger.** 'Zum Streit über das Grundproblem der Ethik in der neueren philosophischen Literatur.' [(1) Defends Kant's Categorical Imperative, in the form 'Act so that you *can* always *will* the maxim of your will as a universal law,' against objections, and tries to show (2) that every ethical inquiry must presuppose some supreme *criterion* of moral action, and (3) that a consistent application of any other criterion than Kant's Law leads to conflict with actual moral judgments. To show (3) we have mainly a long critique of Paulsen and a short one of Gizycki, and to show (2) mainly critiques of Simmel and Stern: (1) also includes short critiques of Windelband, Jodl and Brentano. The author shows conclusively that these writers have neglected most important distinctions; but he seems himself blind to others equally important, and is grossly unfair in some of his objections to Paulsen. His defence of Kant's formula is highly ingenious and novel (based, he says, on Lipps): he assumes that '*can will*' refers to a psychological fact, namely, that we all always will the same *universal* rules of action, and that 'under like circumstances' refers only to those among the actual circumstances *which we take into account*; by which two definitions (which Kant certainly never intended) he makes it plausible that all normal moral judgments could be deduced from his formula: but he seems quite unconscious, that by thus restricting the meaning of the Imperative and by making it a mere *criterion*, he destroys its relevancy to two other problems which Kant certainly intended to solve, (1) the definition of what 'right' means (2) the proof that obedi-

ence to the Imperative is not only consistent with moral common sense but necessarily right. Again he fails to see that, even if his formula expresses a correct analysis of the psychical event, which we call 'a moral choice,' we mean, by so calling it, *not only* that it is of this nature, but *also* that it is 'right' in another and more ultimate sense, in which its rightness does depend on its results.] **R. Reininger.** 'Das Causalproblem bei Hume und Kant.' [Quite worthless: the writer has utterly failed to distinguish the various questions which he pretends to answer. He sees both clearly and truly only (a) that both Hume and Kant thought all causal judgments synthetic; (b) that Hume tried to explain why we believe that one thing will follow another, and (c) denied the possibility of proving the existence of necessary connexion (in some sense) between any two events; finally (d) that Kant does not deny Hume's explanation (b), but tries to prove, what Hume declares indemonstrable (c), by the 'metaphysical hypothesis' that 'our understanding gives laws to nature'. On these data H. Reininger seems not unnaturally to conclude, that Hume's theory is true in all essentials, and that Kant, instead of refuting him, has only made a brilliant suggestion in answer of an insoluble problem which Hume did not attack. Everything else is either vague or untrue or both. *E.g.*, he tells us Hume and Kant are agreed that 'the basis of special causal judgments is experience,' without a hint that, whereas Kant means by it 'experience is necessary to teach us what is necessarily connected with what; but it does teach us truly,' Hume means the following tangle of contradictions 'experience causes us to believe that two things are necessarily connected; but there is no reason to believe that any two things are so; and even if the two things in question were so, experience does not cause us to believe that they are so, since it only causes the expectation of the one to be necessarily connected with the perception of the other.'] Recensionen, etc.

X.—NOTES.

MIND ASSOCIATION.

THE Annual General Meeting of the Association was held on 8th November last in Trinity College, Cambridge. It was resolved that the general meeting next year be in London. On the motion of the President a committee was appointed to consider, in conjunction with the Psychological Society, the advisability of publishing in a supplement to MIND such researches in experimental psychology as from their length and technical character would be unsuited for the ordinary numbers. The following is the full list of the officers and members of the Association:—

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THE LATE DR. RYLAND.

Frederick Ryland, M.A., who died at his residence at Putney on 5th October, was born in 1854, the son of the late John Benjamin Ryland, of Biggleswade. He received his early education at Mead House, Biggleswade, and graduated at St. John's College, Cambridge, taking a high place in the Moral Sciences Tripos of 1876.

He married in 1883, Sarah, daughter of the late Henry Nathan, Esq., who with two daughters survives him.

His first book, published in 1880, was *The Student's Handbook of Psychology and Ethics*, of which the seventh edition was rewritten in 1897, and which was followed by *Locke on Words* (1882), *Chronological*

Outlines of English Literature (1890), *Ethics* (1893), *Logic* (1896), *The Events of the Reign* (1897), and *The Story of Thought and Feeling* (1900).

Mr. Ryland was also a contributor to *MIND* and *The Academy*, and edited Swift's *Journal to Stella* (for Bohn's Library), several of Johnson's *Lives of the Poets*, *London and the Vanity of Human Wishes*, Pope's *Rape of the Lock*, *The Essay on Man*, *The Essay on Criticism*, and a *Selection of Browning's Poems*.

Apart from his philosophical and literary attainments, Mr. Ryland had achieved during the last five and twenty years considerable distinction as a teacher and lecturer, being, at the time of his death, Assistant Professor of Philosophy at University College, London. Remarkably clear-sighted and logical, he possessed not only the faculty of getting to the heart of things and bringing forward the essential parts of his subject, but also an intuitive appreciation and sympathetic patience with his hearers' difficulties. In diction invariably simple and correct, he conveyed with apparent ease the most subtle ideas into the minds of others, and could make the driest facts interesting. In a very wide sense his pupils became his friends, and loving this part of his work for its own sake, the fear that ill-health might force him to give it up was latterly one of his greatest troubles.